TINGKAT PENGETAHUAN MAHASISWA TENTANG PENYAKIT HIV: *LITERATURE REVIEW*

SKRIPSI

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PROGRAM STUDI ILMU KEPERAWATAN
FAKULTAS ILMU KESEHATAN
UNIVERSITAS dr. SOEBANDI JEMBER
2021

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Untuk Memenuhi Persyaratan
Memperoleh Gelar Sarjana Ilmu Keperawatan (S.Kep.)

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LEMBAR PERSETUJUAN

Skripsi penelitian ini telah diperiksa oleh pembimbing dan telah disetujui untuk mengikuti seminar hasil pada Program Studi S1 Keperawatan Universitas dr. Soebandi Jember

Jember, 30 Agustus 2021

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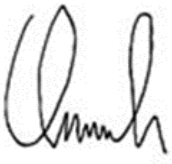

Guruh Wirasakti, S.Kep. Ns., M.Kep

NIK. 198705252018021144

HALAMAN PENGESAHAN

Skripsi yang berjudul *Tingkat Pengetahuan Mahasiswa Tentang Penyakit HIV* telah diuji dan disahkan oleh Program Studi Ilmu Keperawatan pada :

Hari : Selasa

Tanggal : 31 Agustus 2021

Tempat : Zoom Meeting

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PERNYATAAN KEASLIAN PENELITIAN

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Tempat dan tanggal lahir	: Jember, 26 Mei 1996
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Menyatakan dengan sebenar-benarnya bahwa *literature review* dengan judul "Tingkat Pengetahuan Mahasiswa Tentang Penyakit HIV" ini adalah asli dan belum pernah diajukan sebagai syarat penelitian, baik di Universitas dr. Soebandi Jember maupun di perguruan tinggi lain. Skripsi *literature review* ini murni gagasan dan rumusan saya sendiri tanpa bantuan pihak lain, kecuali arahan dari Tim Pembimbing. Dalam perumusan *literature review* ini tidak terdapat karya atau pendapat orang lain yang telah ditulis serta dipublikasikan, kecuali secara tertulis dengan jelas dicantumkan dalam daftar pustaka. Apabila dikemudian hari terdapat penyimpangan dan ketidakbenaran dalam pernyataan ini, maka saya bersedia menerima sanksi akademik dan atau sanksi lainnya sesuai dengan norma yang berlaku dalam perguruan tinggi ini.

Jember, 12 Juli 2021

Anis Sa'idah

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SKRIPSI

TINGKAT PENGETAHUAN MAHASISWA TENTANG PENYAKIT HIV: *LITERATURE REVIEW*

Oleh :

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Dosen Pembimbing Utama : Syiska Atik Maryanti, SST., M.Keb

Dosen Pembimbing Anggota : Guruh Wirasakti, S.Kep., Ns., M.Kep

HALAMAN PERSEMBAHAN

Puji syukur kehadirat Allah SWT yang telah memberikan rahmat dan hidayah-Nya sehingga penulis diberi kemudahan dalam menyelesaikan tugas akhir. Karya ilmiah ini saya persembahkan untuk :

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MOTTO

“La tahzan innallaha ma’ana”

(Surah At-Taubah ayat 40)

“Better late than never”

(Anonim)

KATA PENGANTAR

Alhamdulillah Segala puji bagi Allah SWT yang telah melimpahkan rahmat dan hidayah-Nya sehingga penyusunan Skripsi *Literature Review* ini dapat terselesaikan. Skripsi *Literature Review* ini disusun untuk memenuhi salah satu persyaratan menyelesaikan pendidikan Program Studi Ilmu Keperawatan Universitas dr. Soebandi Jember dengan judul "Tingkat Pengetahuan Mahasiswa Tentang Penyakit HIV".

Selama proses penyusunan Tugas Akhir ini penulis dibimbing dan dibantu oleh berbagai pihak, oleh karena itu penulis mengucapkan terima kasih kepada :

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Dalam penyusunan tugas akhir ini penulis menyadari masih jauh dari kesempurnaan, untuk itu penulis sangat mengharapkan kritik dan saran untuk perbaikan di masa mendatang.

Jember, 31 Agustus 2021

Penyusun,

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ABSTRAK

Sa'idah, Anis.* Maryanti, Syiska Atik.** Wirasakti, Guruh.*** 2021. ***Literature Review* : Tingkat Pengetahuan Mahasiswa Tentang Penyakit HIV.** Program Studi Ilmu Keperawatan Universitas dr. Soebandi Jember.

Latar Belakang : *Human Immunodeficiency Virus* (HIV) adalah sebuah virus yang menyerang sistem kekebalan tubuh manusia, sedangkan *Acquired Immune Deficiency Syndrome* (AIDS) muncul setelah virus (HIV) menyerang sistem kekebalan tubuh selama lima hingga sepuluh tahun atau lebih. Menurut *World Health Organization* (WHO) ada sekitar 38 juta orang yang hidup dengan HIV, pada akhir tahun 2019 ada 1,7 juta orang terinfeksi baru dan 690.000 orang meninggal. Menurut data SIHA (Sistem Informasi HIV, AIDS, dan IMS) jumlah infeksi HIV tahun 2010-2019 menurut kelompok umur 20-24 tahun sebagai terbanyak kedua dan kelompok umur 25-49 tahun atau usia produktif merupakan umur dengan jumlah penderita infeksi HIV terbanyak setiap tahunnya. Penyakit HIV memiliki *window period* sekitar 5-10 tahun yang artinya, paparan HIV/AIDS didapatkan saat usia remaja tengah hingga remaja akhir yaitu usia 15-20 tahun. Mahasiswa merupakan salah satu kelompok yang berisiko terkena HIV/AIDS, usia mayoritas mahasiswa yang berada dalam tahap remaja akhir yang dianggap rentan tertular dikarenakan pengetahuan yang kurang akan bahaya HIV/AIDS. **Tujuan :** Menganalisa tingkat pengetahuan mahasiswa tentang penyakit HIV menggunakan *literature review* dari jurnal nasional dan internasional. **Metode :** Desain penelitian ini menggunakan *literature review*, dengan pengumpulan data, Google Scholar, dan PubMed tahun 2018-2020 peneliti menemukan 5 artikel yang sesuai kriteria. Berdasarkan telaah dari 5 artikel didapatkan. **Hasil :** Dari 5 artikel yang telah di *review* didapatkan tingkat pengetahuan mahasiswa tentang cara transmisi dan cara pencegahan penularan HIV, yaitu baik. **Kesimpulan :** Tingkat pengetahuan mahasiswa mengenai cara transmisi penyakit HIV, yaitu baik dengan sebagian besar mahasiswa tahu penularan melalui cairan tubuh, dan tingkat pengetahuan mahasiswa mengenai pencegahan penularan penyakit HIV pun baik untuk konsisten menggunakan kondom, menghindari hubungan seksual dengan banyak pasangan dan setia pada satu pasangan saja, namun ada kesalahpahaman mengenai pencegahan penularan infeksi HIV dengan penggunaan pil kontrasepsi.

Kata Kunci: HIV, Pengetahuan, Cara transmisi, Cara pencegahan penularan

* Peneliti
** Pembimbing I
*** Pembimbing II

ABSTRACT

Sa'idah, Anis.* Maryanti, Syiska Atik.** Wirasakti, Guruh.*** 2021. ***Literature Review: Level of Student Knowledge About HIV Disease.*** *Nursing Science Study Program, University of dr. Soebandi Jember.*

Background : *Human Immunodeficiency Virus (HIV) is a virus that attacks the human immune system, while Acquired Immune Deficiency Syndrome (AIDS) appears after the virus (HIV) attacks the immune system for five to ten years or more. According to the World Health Organization (WHO) there are about 38 million people living with HIV, at the end of 2019 there were 1.7 million people newly infected and 690,000 people died. According to SIHA data (HIV, AIDS, and STI Information System) the number of HIV infections in 2010-2019 according to the age group 20-24 years is the second largest and the age group 25-49 years or productive age is the age with the highest number of HIV infection sufferers each year. HIV disease has a window period of about 5-10 years, which means that exposure to HIV/AIDS is obtained during middle adolescence to late adolescence, which is 15-20 years old. Students are one of the groups at risk of getting HIV/AIDS, the age of the majority of students who are in the late teenage stage who are considered vulnerable to infection due to lack of knowledge about the dangers of HIV/AIDS.* ***Objectives :*** *To analyze the level of student knowledge about HIV disease using literature reviews from national and international journals.* ***Methods :*** *The design of this study used a literature review, with data collection, Google Scholar, and PubMed in 2018-2020 the researchers found 5 articles that matched the criteria. Based on a review of 5 articles obtained.* ***Results :*** *From the 5 articles that have been reviewed, it is found that the level of student knowledge about transmission methods and ways to prevent HIV transmission is good.* ***Conclusions :*** *The level of knowledge of students about the transmission of HIV disease, which is good with most students knowing transmission through body fluids, and the level of knowledge of students about preventing HIV transmission is good for consistently using condoms, avoiding sexual relations with many partners and being loyal to one partner. However, there are misconceptions about preventing the transmission of HIV infection by using the contraceptive pill.*

Keywords: HIV, Knowledge, Method of transmission, How to prevent transmission

** Researcher*
*** Advisor I*
**** Advisor II*

DAFTAR ISI

DAFTAR TABEL

DAFTAR GAMBAR

DAFTAR LAMPIRAN

DAFTAR SINGKATAN

AIDS	: *Acquired Immune Deficiency Syndrome*
ARC	: *AIDS Related Complex*
ASI	: Air Susu Ibu
BKKBN	: Badan Kependudukan dan Keluarga Berencana Nasional
CDC	: *Centers for Disease Control and Prevention*
CMV	: *Cytomegalovirus*
Ditjen P2P	: Direktorat Jenderal Pencegahan dan Pengendalian Penyakit
DNA	: *Deoxyribonucleic Acid*
ELISA	: *Enzyme-Linked Immunosorbent Assay*
HAART	*: Highly Active Antiretroviral Therapy*
HB	*: Hemoglobin*
HIV	*: Human Immunodeficiency Virus*
ISPA	: Infeksi Saluran Pernafasan
IRIS	*: Immune Reconstitution Inflammatory Syndrome*
LAV	*: Lymphadenophaty Virus*
PPE	*: Pruritic papular eruption*
SIHA	: Sistem Informasi HIV, AIDS dan IMS
TB	: Tuberkulosis
UNAIDS	*: United Nations Programme on HIV and AIDS*
WHO	*: World Health Organization*

BAB 1

PENDAHULUAN

1.1 Latar Belakang

Human Immunodeficiency Virus (HIV) adalah sebuah virus yang menyerang sistem kekebalan tubuh manusia, sedangkan *Acquired Immune Deficiency Syndrome* (AIDS) muncul setelah virus (HIV) menyerang sistem kekebalan tubuh selama lima hingga sepuluh tahun atau lebih. Sistem kekebalan tubuh menjadi lemah, dan satu atau lebih penyakit dapat timbul karena lemahnya sistem kekebalan tubuh beberapa penyakit bisa menjadi lebih berat daripada biasanya. (Murni , Green, Djauzi, Setiyanto, & Okta, 2016)

Menurut data dari *World Health Organization* (WHO) ada sekitar 38 juta orang yang hidup dengan HIV, pada akhir tahun 2019 ada 1,7 juta orang terinfeksi baru dan 690.000 orang meninggal. (WHO, 2021). Berdasarkan data dari *United Nations Programme on HIV and AIDS* (UNAIDS) jumlah populasi terinfeksi HIV di Asia Tenggara sekitar 3,8 juta. (UNAIDS, 2021). Tingginya populasi orang terinfeksi HIV di Asia Tenggara mengharuskan Indonesia untuk lebih waspada terhadap penyebaran dan penularan virus ini. Jumlah kasus HIV/AIDS di Indonesia meskipun cenderung fluktuatif, namun data kasus HIV/AIDS di Indonesia terus meningkat dari tahun 2009 hingga tahun 2019 dengan total 377.555 untuk

kasus HIV dan 121.011 untuk kasus AIDS. Jumlah kasus HIV di Indonesia mencapai puncaknya pada tahun 2019, yaitu sebanyak 50.282 kasus dan kasus

AIDS tertinggi pada tahun 2013, yaitu 12.214 kasus. Pada tahun 2019, Jawa Timur menempati urutan ke-1 sebagai provinsi dengan penderita HIV terbanyak dengan total kasus 8.935, sedangkan jumlah yang positif AIDS adalah 958 kasus. (INFODATIN, 2021)

Berdasarkan data dari UNAIDS, setiap tahunnya terjadi peningkatan penderita HIV dan pada tahun 2019, yaitu 38 juta. Sebanyak 1,7 juta penderita baru di tahun 2019 dan diantaranya 1,5 juta berusia >15 tahun. (INFODATIN, 2021). Menurut data SIHA (Sistem Informasi HIV, AIDS, dan IMS) mengenai jumlah infeksi HIV tahun 2010-2019 yang dilaporkan menurut kelompok umur, setiap tahunnya kelompok umur 15-19 tahun berada di urutan terbanyak ketiga, disusul kelompok umur 20-24 tahun sebagai terbanyak kedua dan kelompok umur 25-49 tahun atau usia produktif merupakan umur dengan jumlah penderita infeksi HIV terbanyak setiap tahunnya. (INFODATIN, 2021).

Berdasarkan uraian diatas kelompok umur 25-49 tahun adalah yang terbanyak menderita HIV/AIDS. Padahal, penyakit ini memiliki *window period* sekitar 5-10 tahun yang artinya, paparan HIV/AIDS didapatkan saat usia remaja tengah hingga remaja akhir yaitu usia 15-20 tahun. WHO memperkirakan 5.500 wanita berumur 15-49 tahun terinfeksi HIV setiap minggunya (WHO, 2021). Menurut penelitian (Fadilah, 2018), mengenai usia dalam melakukan hubungan seksual, ditemukan 1,8% remaja wanita melakukan hubungan seksual pertama kali pada umur 15-24 tahun dan tingkat pendidikan seseorang yang lebih tinggi mengurangi resiko terpapar perilaku seksual pranikah. (Fadilah, 2018).

Tingginya kasus HIV/AIDS di usia dewasa akhir perlu diantisipasi dengan adanya pencegahan pada usia sebelumnya yaitu pada usia remaja akhir untuk

menurunkan angka kejadian penyakit HIV/AIDS di usia dewasa akhir maupun remaja akhir. Menurut Depkes RI tahun 2009 kategori usia remaja akhir adalah umur 17-tahun dimana pada usia tersebut remaja akhir melanjutkan studi sebagai mahasiswa. Pada masa remaja akhir mahasiswa akan mengalami kematangan baik pada nilai sosial, moral, intelegensi, emosi maupun seksual. Perkembangan seksual pada mahasiswa yang merupakan remaja akhir secara total menemukan perwujudan orientasi seksual yang tercermin dari hasrat seksual, emosional, dan kasih sayang. Perubahan hormonal pada usia remaja akhir akan meningkatkan hasrat seksualnya. Kecenderungan pelanggaran atau penyimpangan perilaku seksual akan meningkat oleh karena adanya penyebaran informasi melalui media massa. Pergaulan mahasiswa juga akan mengalami peningkatan dan tidak dapat diingkari kecenderungan pergaulan antara pria dan wanita di usia tersebut akan meningkatkan resiko penyimpangan perilaku seksual.

Salah satu informasi yang tepat dan akurat yang dapat membentuk persepsi remaja adalah informasi yang didapatkan di pusat pendidikan seperti sekolah dan perguruan tinggi. Pengetahuan mengenai HIV/AIDS dianggap penting dan mendasar, untuk itu pemberian informasi dapat dilakukan secara menyeluruh baik itu di tingkat Sekolah Menengah Pertama, Sekolah Menengah Atas, dan bahkan di tingkat mahasiswa. Mahasiswa dianggap menjadi individu dengan tingkat intelegensi tinggi yang berada pada tingkat paling atas dari jenjang pendidikan. (Hidayat, 2012). Usia mayoritas mahasiswa yang berada dalam tahap remaja akhir yang dianggap rentan tertular dikarenakan pengetahuan yang kurang akan bahaya HIV/AIDS bisa dicegah dengan cara memberi pengetahuan

dasar pada remaja tentang penyakit menular seksual HIV/AIDS karena informasi yang salah dapat menjerumuskan remaja ke pergaulan bebas atau ke hal lain yang dapat mengarah terhadap penularan penyakit menular HIV/AIDS. Namun, pengetahuan yang baik belum tentu menghasilkan perilaku yang baik pula, perlu ada kesadaran dari diri sendiri untuk berupaya dalam mencegah penyakit tersebut. (Asni & Rusli, 2018).

Pencegahan penularan HIV/AIDS merupakan tanggung jawab masing-masing individu yang sangat dipengaruhi oleh faktor pengetahuan (Murni , Green, Djauzi, Setiyanto, & Okta, 2016). Mereka yang memiliki tingkat pengetahuan HIV/AIDS yang tinggi maka sikap dan perilaku dalam pencegahan HIV/AIDS pun semakin baik (Siwy, 2013). Untuk menghindari penularan HIV, terdapat konsep "ABCDE" yaitu A (Abstinence) dengan absen seks atau tidak melakukan hubungan seks bagi yang belum menikah; B (Be faithful) dengan bersikap saling setia kepada satu pasangan seks (tidak berganti-ganti); C (Condom) dengan mencegah penularan HIV melalui hubungan seks dengan menggunakan kondom; D (Drug No) dengan larangan menggunakan narkoba; E (Education) dengan pemberian edukasi dan informasi yang benar mengenai HIV, cara penularan, pencegahan dan pengobatan. (INFODATIN, 2021). Witaningtyas (2020) menyebutkan bahwa mayoritas mahasiswa memiliki tingkat pengetahuan HIV/AIDS yang kurang (Witaningtyas, 2020). Mahasiswa merupakan salah satu kelompok yang berisiko terkena HIV/AIDS, hendaknya memiliki pengetahuan yang baik mengenai HIV/AIDS dan berupaya untuk mencegah penyakit yang mematikan ini. Pengetahuan dasar tentang HIV/AIDS bisa membantu agar memahami dan menyadari seberapa

berbahayanya HIV/AIDS sehingga remaja bisa memiliki sikap dan perilaku yang sehat untuk menghindari HIV/AIDS (Lestari, 2014).

Berdasarkan uraian diatas peneliti ingin melakukan penelitian tentang tingkat pengetahuan tentang penyakit HIV pada mahasiswa berdasarkan kajian literature.

1.2 Rumusan Masalah

Bagaimana tingkat pengetahuan mahasiswa tentang penyakit HIV berdasarkan kajian literature?

1.3 Tujuan

1.3.3 Tujuan Umum

Mengetahui tingkat pengetahuan mahasiswa tentang penyakit HIV berdasarkan kajian literature.

1.3.4 Tujuan Khusus

1) Mengidentifikasi tingkat pengetahuan tentang cara transmisi HIV.
2) Menngidentifikasi tingkat pengetahuan tentang pencegahan penularan HIV.

BAB 2

TINJAUAN PUSTAKA

2.1 Konsep HIV

2.1.1 Pengertian HIV

Human Immunodeficiency Virus (HIV) adalah sebuah virus yang menyerang sistem kekebalan tubuh manusia, sedangkan *Acquired Immune Deficiency Syndrome* (AIDS) muncul setelah virus (HIV) menyerang sistem kekebalan tubuh selama lima hingga sepuluh tahun atau lebih. Sistem kekebalan tubuh menjadi lemah, dan satu atau lebih penyakit dapat timbul. Karena lemahnya sistem kekebalan tubuh beberapa penyakit bisa menjadi lebih berat daripada biasanya. (Murni, et al., 2016).

Infeksi *Human Immunodeficiency Virus* (HIV) adalah suatu spektrum penyakit yang menyerang sel-sel kekebalan tubuh yang meliputi infeksi primer, dengan atau tanpa sindrom akut, stadium asimtomatik, hingga stadium lanjut. *Acquired Immunodeficiency Syndrome* (AIDS) dapat diartikan sebagai kumpulan gejala atau penyakit yang disebabkan oleh menurunnya kekebalan tubuh akibat infeksi oleh virus HIV, dan merupakan tahap akhir dari infeksi HIV (Nurul, et al., 2019).

2.1.2 Epidemiologi HIV

Kasus pertama AIDS di dunia dilaporkan pada tahun 1981. Pada awal tahun 1982, sebelum menemukan agen penyebabnya, *Centers for Disease Control and Prevention* (CDC) telah mengembangkan definisi kasus AIDS dengan dasar diagnosis adanya ‘suatu penyakit yang cukup

mengindikasikan adanya imunodefisiensi seluler pada seseorang tanpa penyebab yang diketahui'. Sebelumnya, sudah terdapat laporan kasus yang memenuhi definisi surveilans AIDS pada tahun 1950 dan 1960-an di Amerika Serikat. Virus penyebab AIDS diidentifikasi oleh Luc Montagnier pada tahun 1983, yang awal diberi nama LAV (*lymphadenopathy virus*), dan pada tahun 1984 Robert Gallo menemukan virus penyebab AIDS, yang saat itu diberi nama HTLV-III. Pada tahun 1984, istilah *AIDS related complex* (ARC) diciptakan untuk menggambarkan gejala imunodefisiensi yang dikenali seiring dengan peningkatan frekuensi risiko seseorang untuk terkena AIDS. Gejala tersebut adalah limfadenopati generalisata yang tidak dapat dijelaskan, trombositopenia idiopatik, kandidiasis oral, infeksi herpes zoster, dan sindrom wasting konstitusional. Istilah ARC ini sekarang sudah tidak dipakai lagi. Tes untuk memeriksa antibodi terhadap HIV sendiri baru tersedia pada tahun 1985. Kasus pertama AIDS di Indonesia dilaporkan secara resmi oleh Departemen Kesehatan tahun 1987, yaitu pada seorang warga negara Belanda di Bali. Pada tahun 1986–1987, CDC membuat sistem klasifikasi untuk mengakomodasi semakin banyaknya temuan klinis yang dikaitkan dengan infeksi kronik HIV, dan memperluas definisi AIDS untuk lebih efektif melacak morbiditas yang terkait dengan infeksi HIV, yang direvisi dan dikembangkan lebih lanjut pada 1993. Secara umum, AIDS sejak itu didefinisikan sebagai diagnosis laboratoris adanya infeksi HIV ditambah infeksi oportunistik atau jumlah CD4 di bawah 200/µL (Hidayati, et al., 2019).

2.1.3 Penyebab HIV

Virus masuk ke dalam tubuh manusia terutama melalui perantara darah, semen dan sekret vagina. Setelah memasuki tubuh manusia, maka target utama HIV adalah limfosit CD4 karena virus mempunyai afinitas terhadap molekul permukaan CD4. Virus ini akan mengubah informasi genetiknya kedalam bentuk yang terintegrasi di dalam informasi genetik dari sel yang diserangnya, yaitu merubah bentuk RNA (ribonucleic acid) menjadi DNA (*deoxyribonucleic acid*) menggunakan enzim reverse transcriptase. DNA pro-virus tersebut kemudian diintregasikan ke dalam sel hospes dan selanjutnya diprogramkan untuk membentuk gen virus. Setiap kali sel yang dimasuki retrovirus membelah diri, informasi genetik virus juga ikut diturunkan. *Human Immunodeficiency Virus* menyerang CD4 baik secara langsung maupun tidak langsung. Secara langsung, sampul HIV yang mempunyai efek toksik akan menghambat fungsi sel T. Secara tidak langsung, lapisan luar protein HIV yang disebut sampul gp120 dan anti p24 berinteraksi dengan CD4 yang kemudian akan menghambat aktivasi sel yang mempresentasikan antigen. Hilangnya fungsi CD4 menyebabkan, gangguan imunologis yang progresif. (Daili, 2009).

Cukup sulit untuk mengukur berapa lama waktu diantara infeksi HIV dan penyakit AIDS, sehingga banyak orang pengidap HIV tidak akan tahu kapan mereka tertular HIV.Akan tetapi perkiraan WHO 60% dari orang dewasa pengidap HIV akan berkembang menjadi AIDS dalam waktu 12-13 tahun sesudah tertular HIV. Perkiraan para ahli menyebutkan pula bahwa sebagian besar pengidap HIV akan sampai ke tahap AIDS.

Dewasa ini menunjukkan bahwa penderita HIV dan AIDS pada kelompok muda (usia produktif) meningkat tajam disebabkan oleh beberapa hal:

1) Kaum muda lebih beresiko terhadap penularan infeksi
2) Perilaku seksual yang tidak sehat dan tidak bertanggung jawab
3) Jumlah kaum muda cukup besar
4) Perkembangan teknologi tidak sejalan dengan kesiapan anak untuk bisa menerimanya
5) Anak muda berada pada posisi "transisi perilaku" atau masa gonjang-ganjing sehingga mudah sekali terpengaruh dan keinginan lebih tinggi untuk mencoba. (BKKBN, 2008).

2.1.4 Penularan HIV

HIV adalah salah satu penyakit yang menular. Namun penularannya tak semudah seperti virus influenza atau virus- virus lainnya. Virus HIV dapat hidup di seluruh cairan tubuh manusia, akan tetapi yang mempunyai kemampuan untuk menularkan kepada orang lain hanya HIV yang berada dalam darah, cairan vagina dan sperma.

Penularan HIV atau AIDS yang diketahui adalah melalui:

1) Seksual

   Penularan melalui hubungan seksual dapat terjadi selama senggama laki-laki dengan perempuan atau laki-laki dengan laki-laki. Senggama berarti kontak seksual dengan penetrasi vaginal, anal (anus), oral (mulut) antara dua individu. Resiko tertinggi adalah penetrasi vaginal atau anal yang tak terlindung dari individu yang terinfeksi HIV.

2) Melalui transfusi darah atau produk darah yang sudah tercemar dengan

virus HIV.

3) Melalui jarum suntik atau alat kesehatan lain yang ditusukkan atau tertusuk ke dalam tubuh yang terkontaminasi dengan virus HIV, seperti jarum tato atau pada pengguna narkotik suntik secara bergantian.
4) Melalui silet atau pisau, pencukur jenggot secara bergantian hendaknya dihindarkan karena dapat menularkan virus HIV kecuali benda-benda tersebut disterilkan sepenuhnya sebelum digunakan.
5) Melalui transplantasi organ pengidap HIV
6) Penularan dari ibu ke anak

   Kebanyakan infeksi HIV pada anak didapat dari ibunya saat ia dikandung, dilahirkan dan sesudah lahir melalui ASI. (Kurniawati & Diniyah, 2018)

HIV atau AIDS tidak menular melalui:

1) Bekerja bersama orang yang terkena infeksi HIV
2) Gigitan nyamuk atau serangga lain
3) Sentuhan tangan atau saling pelukan
4) Hubungan Seks dengan menggunakan kondom
5) Penggunaan alat makan bersama
6) Penggunaan toilet bersama
7) Semprotan bersin atau batuk. (Kurniawati & Diniyah, 2018)

2.1.5 Tanda dan gejala HIV

World Health Organization (WHO) mengelompokkan berbagai infeksi dan kondisi AIDS dengan memperkenalkan sistem tahapan untuk pasien yang terinfeksi dengan HIV-1. Kebanyakan kondisi ini adalah infeksi oportunistik yang dengan mudah ditangani pada orang sehat.

Stadium klinis HIV dan AIDS, yaitu:

1) Stadium 1 Asimtomatik
   a. Tidak ada penurunan berat badan
   b. Tidak ada gejala atau hanya Limfadenopati Generalisata yang Persisten
2) Stadium 2 Sakit ringan
   a. Penurunan berat badan 5-10%
   b. ISPA berulang, misalnya sinusitis atau otitis
   c. Herpes zoster dalam 5 tahun terakhir
   d. Luka disekitar bibir (keilitis angularis)
   e. Ulkus mulut berulangRuam kulit yang gatal (seboroik atau prurigo-PPE (*Pruritic popular eruption*))
   f. Dermatitis seboroik
   g. Infeksi jamur kuku
3) Stadium 3 Sakit sedang
   a. Penurunan berat badan > 10%
   b. Diare, demam yang tidak diketahui penyebabnya, lebih dari 1 bulan
   c. Kandidosis oral atau vaginal
   d. Oral hairy leukoplakia
   e. TB Paru dalam 1 tahun terakhir
   f. Infeksi bakterial yang berat (pneumoni, piomiositis, dll)
   g. TB limfadenopati
   h. Gingivitis/ Periodontitis ulseratif nekrotikan akut

4) AneStadium 4 Sakit berat (AIDS)
   a. Sindroma wasting HIV
   b. Pneumonia pnemosistis, pnemoni bacterial yang berat berulang
   c. Herpes simpleks ulseratif lebih dari satu bulan
   d. Kandidosis esophageal
   e. TB Extraparu
   f. Sarcoma Kaposi
   g. Retinitis CMV (*Cytomegalovirus*)
   h. Abses otak Toksoplasmosis
   i. Encefalopati HIV
   j. Meningitis Kriptokokus
   k. Lekoensefalopati multifocal progresif
   l. Peniciliosis, kriptosporidosis kronis, isosporiasis kronis, mikosis meluas, histoplasmosis ekstra paru, cocidiodomikosi
   m. Limfoma serebral atau B-cell, non-Hodgkin
   n. Kanker serviks invasive
   o. Leismaniasis atipik meluas
   p. Gejala neuropati atau kardiomiopati terkait HIV (Kurniawati & Diniyah, 2018).

Gejala klinis dari HIV atau AIDS dibagi atas beberapa fase, yaitu :

1) Fase awal

   Pada awal infeksi, mungkin tidak akan ditemukan gejala dan tanda-tanda infeksi. Tapi kadang-kadang ditemukan gejala mirip flu seperti demam, sakit kepala, sakit tenggorokan, ruam dan pembengkakan kelenjar getah bening. Walaupun tidak mempunyai gejala infeksi, penderita HIV/AIDS dapat menularkan virus kepada orang lain.

2) Fase lanjut

   Penderita akan tetap bebas dari gejala infeksi selama 8 atau 9 tahun atau lebih. Tetapi seiring dengan perkembangan virus dan penghancuran sel imun tubuh, penderita HIV/AIDS akan mulai memperlihatkan gejala yang kronis seperti pembesaran kelenjar getah bening (sering merupakan gejala yang khas), diare, berat badan menurun, demam, batuk dan pernafasan pendek.

3) Fase akhir

   Selama fase akhir dari HIV, yang terjadi sekitar 10 tahun atau lebih setelah terinfeksi, gejala yang lebih berat mulai timbul dan infeksi tersebut akan berakhir pada penyakit yang disebut AIDS.

Secara umum tanda dan gejala, yaitu :

1) Penderita akan mengalami demam tinggi yang berkepanjangan
2) Penderita akan mengalami napas pendek, batuk, nyeri dada dan demam, ia akan kehilangan nafsu makan, mual, dan muntah
3) Diare kronis yang tidak dapat dijelaskan pada infeksi HIV dapat terjadi karena berbagai penyebab; antara lain infeksi bakteri dan parasit yang

umum (seperti Salmonella, Shigella, Listeria, Kampilobakter, dan Escherichia coli), serta infeksi oportunistik yang tidak umum dan virus (seperti kriptosporidiosis, mikrosporidiosis, Mycobacterium avium complex, dan virus sitomegalo (CMV) yang merupakan penyebab kolitis).

4) Batuk berkepanjangan. (Kurniawati & Diniyah, 2018)

2.1.6 Pencegahan HIV

Untuk menghindari penularan HIV, dikenal konsep "ABCDE" sebagai berikut:

1) A (*Abstinence*), artinya absen seks atau tidak melakukan hubungan seks bagi yang belum menikah.
2) B (*Be faithful*), artinya bersikap saling setia kepada satu pasangan seks (tidak berganti-ganti pasangan).
3) C (*Condom*), artinya cegah penularan HIV melalui hubungan seksual dengan menggunakan kondom.
4) D (*Drug No*), artinya dilarang menggunakan narkoba.
5) E (*Education*), artinya pemberian edukasi dan informasi yang benar mengenai HIV, cara penularan, pencegahan dan pengobatannya. (INFODATIN, 2021)

Cara mencegah masuknya suatu penyakit secara umum di antaranya dengan membiasakan hidup sehat, yaitu mengkonsumsi makanan sehat, berolah raga, dan melakukan pergaulan yang sehat. Beberapa tindakan untuk menghindari dari HIV atau AIDS antara lain :

1) Mempertebal iman dan taqwa agar tidak terjerumus ke dalam hubungan

seksual pra nikah dan di luar nikah serta berganti-ganti pasangan.

2) Hindarkan pemakaian pisau cukur, gunting kuku, atau sikat gigi milik orang lain.
3) Hindarkan hubungan seksual diluar nikah dan usahakan hanya berhubungan dengan satu pasangan seksual.
4) Seorang ibu yang darahnya telah diperiksa dan ternyata positif HIV sebaiknya jangan hamil, karena bisa memindahkan virusnya kepada janin yang dikandungnya. Akan bila berkeinginan hamil hendaknya selalu berkonsultasi dengan dokter.
5) Orang-orang yang tergolong pada kelompok perilaku resiko tinggi hendaknya tidak menjadi donor darah.
6) Penggunaan jarum suntik dan alat tusuk lainnya seperti; akupunktur, jarum tatto, jarum tindik, hendaknya hanya sekali pakai dan harus terjamin sterilitasnya.
7) Jauhi narkoba, karena sudah terbukti bahwa penyebaran HIV atau AIDS di kalangan panasun (pengguna narkoba suntik) 3-5 kali lebih cepat dibanding perilaku risiko lainnya. (Kurniawati & Diniyah, 2018)

2.1.7 Diagnosis HIV

Untuk memastikan apakah pasien terinfeksi HIV, maka harus dilakukan tes HIV. Skrining dilakukan dengan mengambil sampel darah atau urine pasien untuk diteliti di laboratorium. Jenis skrining untuk mendeteksi HIV adalah :

1) Tes antibodi

Tes ini bertujuan mendeteksi antibodi yang dihasilkan tubuh untuk

melawan infeksi HIV. Meski akurat, perlu waktu 12 minggu agar jumlah antibodi dalam tubuh cukup tinggi untuk terdeteksi saat pemeriksaan.

2) Tes antigen

Tes antigen bertujuan mendeteksi p24, suatu protein yang menjadi bagian dari virus HIV. Tes antigen dapat dilakukan 2-6 minggu setelah pasien terinfeksi.

Apabila skrining menunjukkan pasien terinfeksi HIV (HIV positif), maka pasien perlu menjalani tes selanjutnya. Selain untuk memastikan hasil skrining, tes berikut dapat membantu dokter mengetahui tahap infeksi yang diderita, serta menentukan metode pengobatan yang tepat. Sama seperti skrining, tes ini dilakukan dengan mengambil sampel darah pasien, untuk diteliti di laboratorium.

Beberapa tes tersebut antara lain:

1) Hitung sel CD4

CD4 adalah bagian dari sel darah putih yang dihancurkan oleh HIV. Oleh karena itu, semakin sedikit jumlah CD4, semakin besar pula kemungkinan seseorang terserang AIDS. Pada kondisi normal, jumlah CD4 berada dalam rentang 500-1400 sel per milimeter kubik darah. Infeksi HIV berkembang menjadi AIDS bila hasil hitung sel CD4 di bawah 200 sel per milimeter kubik darah.

2) Pemeriksaan *viral load* (HIV RNA)

Pemeriksaan *viral load* bertujuan untuk menghitung RNA, bagian dari virus HIV yang berfungsi menggandakan diri. Jumlah RNA yang lebih dari 100.000 kopi per mililiter darah, menandakan infeksi HIV baru saja

terjadi atau tidak tertangani. Sedangkan jumlah RNA di bawah 10.000 kopi per mililiter darah, mengindikasikan perkembangan virus yang tidak terlalu cepat. Akan tetapi, kondisi tersebut tetap saja menyebabkan kerusakan perlahan pada sistem kekebalan tubuh.

3) Tes resistensi (kekebalan) terhadap obat

   Beberapa subtipe HIV diketahui kebal pada obat anti HIV. Melalui tes ini, dokter dapat menentukan jenis obat anti HIV yang tepat bagi pasien.

Adapun jenis-jenis pemeriksaan HIV dan AIDS, yaitu:

1) ELISA (Enzyme-Linked Immuno-sorbent Assay), tes ini berguna sebagai skrining maupun diagnosis HIV dengan mendeteksi antibodi untuk HIV-1 dan HIV-2.
2) Western Blot, tes ini merupakan tes antibodi untuk konfirmasi pada kasus yang sulit.
3) Tes Rapid HIV, Tes cepat hanya dilakukan untuk keperluan skrining, dengan reagen yang sudah dievaluasi oleh institusi yang ditunjuk Kementerian Kesehatan, dapat mendeteksi baik antibodi terhadap HIV-1 maupun HIV-2. Tes cepat dapat dij alankan pada jumlah sampel yang lebih sedikit dan waktu tunggu untuk mengetahui hasil kurang dari 20 menit bergantung pada jenis tesnya dan dilakukan oleh tenaga medis yang terlatih.
4) Tes HIV RNA, tes ini untuk memeriksa jumlah virus di dalam darah, dan dapat digunakan untuk pemantauan terapi ARV pada dewasa dan diagnosis pada bayi jika HIV DNA tidak tersedia. (Hidayati, et al., 2019).

2.1.8 Penatalaksanaan HIV

Penatalaksanaan HIV tergantung pada stadium penyakit dan setiap infeksi oportunistik yang terjadi. Secara umum, tujuan pengobatan adalah untuk mencegah sistem imun tubuh memburuk ke titik di mana infeksi oportunistik akan bermunculan. Sindrom pulih imun atau *Immune Reconstitution Inflammatory Syndrome* (IRIS) yang dapat muncul setelah pengobatan juga jarang terjadi pada pasien yang belum mencapai titik tersebut. Untuk semua penderita HIV/AIDS diberikan anjuran untuk istirahat sesuai kemampuan atau derajat sakit, dukungan nutrisi yang memadai berbasis makronutrien dan mikronutrien untuk penderita HIV & AIDS, konseling termasuk pendekatan psikologis dan psikososial, dan membiasakan gaya hidup sehat. Terapi antiretroviral adalah metode utama untuk mencegah perburukan sistem imun tubuh. Terapi infeksi sekunder/ oportunistik/ malignansi diberikan sesuai gejala dan diagnosis penyerta yang ditemukan. Sebagai tambahan, profilaksis untuk infeksi oportunistik spesifik diindikasikan pada kasus-kasus tertentu. Prinsip pemberian ARV adalah menggunakan kombinasi 3 jenis obat yang ketiganya harus terserap dan berada dalam dosis terapeutik dalam darah, dikenal dengan *highly active antiretroviral therapy* (HAART). Istilah HAART sering disingkat menjadi ART (*antiretroviral therapy*) atau terapi ARV. Pemerintah dalam Peraturan Menteri Kesehatan Indonesia no 87 Tahun 2014 menetapkan paduan yang digunakan dalam pengobatan ARV dengan berdasarkan pada 5 aspek, yaitu efektivitas, efek samping/ toksisitas, interaksi obat, kepatuhan, dan harga obat. (Permenkes dalam Nurul, 2019). Setelah pemberian ARV diperlukan

pemantauan dengan tujuan mengevaluasi respons pengobatan, pemantauan terhadap efek samping ARV dan substitusi ARV jika diperlukan, pemantauan sindrom pulih imun/IRIS, serta memantau apakah didapatkan kegagalan terapi ARV untuk memulai terapi lini berikutnya.

2.2 Konsep Pengetahuan

2.2.1 Definisi Pengetahuan

Menurut (Notoadmojo dalam (Cuwardy, 2020)) pengetahuan adalah hasil dari tahu, yang terjadi setelah seseorang melakukan pengindraan terhadap suatu objek. Pengindraan terjadi melalui indra manusia yaitu, penglihatan, pendengaran, penciuman, rasa dan raba.

2.2.2 Tingkat Pengetahuan

Pengetahuan yang tercakup dalam domain kognitif menurut (Notoatmodjo dalam (Cuwardy, 2020)) mempunyai 6 tingkatan, yaitu :

1) Tahu (*Know*)

   Merupakan kemampuan yang dimiliki seseorang untuk mengingat suatu materi yang telah dipelajari sebelumnya, dari seluruh bahan yang dipelajari atau rangsangan yang diterima. Seseorang dikatakan tahu jika dapat : menyebutkan, menguraikan, mengidentifikasi dan mengatakan. Tahu *(know*) merupakan tingkat pengetahuan yang paling rendah.

2) Memahami *(Comprehension)*

   Memahami merupakan kemampuan yang dimiliki seseorang untuk menjelaskan secara benar dan kasar tentang objek yang diketahui serta dapat menginterprestasikan materi tersebut secara benar. Seseorang yang

telah dianggap memahami suatu materi atau objek harus dapat menjelaskan, menyebutkan, menyimpulkan, meramalkan dan menginterpretasi.

3) Aplikasi (*Aplication*)

Aplikasi merupakan kemampuan yang dimiliki seseorang yang telah memahami objek atau materi untuk menggunakannya pada situasi atau kondisi yang sebenarnya yang telah dipelajari. Aplikasi mencakup penggunaan hukum, rumus, metode, prinsip dan sebagainya.

4) Analisis (*Analysis*)

Analisis merupakan kemampuan yang dimiiki seseorang untuk menjabarkan materi atau objek dalam suatu komponen-komponen, tetapi masih dalam stuktur organisasi dan masih ada kaitannya satu sama lain. Kemampuan analisis seseorang dapat terlihat dari penggunaan kata kerja seperti mengelompokkan, menggambar, memisahkan, membuat diagram (bagan) terhadap pengetahuan atas objek tersebut.

5) Sintesis (*Synthesis*)

Sintesis menunjukkan kemampuan yang dimiliki seseorang untuk merangkum, meletakkan, menghubungkan bagian-bagian dalam bentuk keseluruhan yang baru, dalam satu hubungan yang logis dari komponen-komponen pengetahuan yang dimiliki. Sintesis dapat dikatakan bahwa merupakan kemampuan untuk menyusun formulasi baru dari formulasi-formulasi yang ada.

6) Evaluasi (*Evaluation*)

Evaluasi merupakan kemampuan yang dimiliki seseorang untuk melakukan penilaian terhadap suatu objek tertentu atau terhadap suatu materi objek berdasarkan kriteria yang ditentukan sendiri atau kriteria yang telah ditentukan atau telah ada ataupun dengan norma-norma yang berlaku di masyarakat.

2.2.3 Variabel-variabel yang mempengaruhi pengetahuan

Menurut (Astutik dalam (Sanifah, 2020)), adapun beberapa variabel yang mempengaruhi pengetahuan seseorang yaitu:

1) Usia

Usia mempengaruhi daya tangkap dan pola fikir seseorang, semakin bertambahnya usia maka semakin berkembang pula daya tangkap dan pola fikir seseorang. Setelah melewati usia madya (40-60 tahun), daya tangkap dan pola fikir sesorang akan menurun.

2) Pendidikan

Tingkat pendidikan dapat menentukan tingkat kemampuan seseorang dalam memahami dan menyerap pengetahuan yang telah di peroleh. Umumnya, pendidikan mempengaruhi suatu proses pembelajaran, semakin tinggi tingkat pendidikan seseorang maka semakin baik tingkat pengetahuannya.

3) Pengalaman

Pengalaman adalah suatu proses dalam memperoleh kebenaran pengetahuan dengan cara mengulang kembali pengetahuan yang telah di

peroleh dalam memecahkan masalah yang di hadapi saat masa lalu dan dapat di gunakan dalam upaya memperoleh pengetahuan.

4) Informasi

Jika seseorang memiliki tingkat pendidikan yang rendah, namun mendapatkan informasi yang baik dari berbagai media seperti telivisi, radio, surat kabar, majalah dan lain-lain, maka hal tersebut dapat meningkatkan pengetahuan seseorang.

5) Sosial budaya dan ekonomi

Tradisi atau kebiasaan yang sering dilakukan oleh masyarakat dapat meningkatkan pengetahuannya selain itu, status ekonomi juga dapat mempengaruhi pengetahuan dengan trsediannya suatu fasilitas yang di butuhkan oleh seseorang.

6) Lingkungan

Lingkungan sangat berengaruh dalam proses penyerapan pengetahuan yang berada dalam suatu lingkungan. Hal ini terjadi karena adanya interaksi yang akan di respon sebagai pengetahuan oleh setiap individu.

2.2.4 Cara memperoleh pengetahuan

Menurut (Kerlinger dalam (Masturoh & Anggita, 2018)) mengutarakan empat cara untuk memperoleh pengetahuan:

1) Metode keteguhan (*Method of tenacity*), yaitu berpegang teguh pada pendapat yang sudah diyakini kebenarannya sejak lama.
2) Metode otoritas (*Method of authority*), yaitu merujuk pada pernyataan para ahli atau yang memiliki otoritas.

3) Metode Intuisi (*Method of intuition*), yaitu berdasarkan keyakinan yang kebenarannya dianggap terbukti dengan sendirinya atau tidak perlu pembuktian lagi.
4) Metode Ilmiah (*Method of science*), yaitu berdasarkan kaidah keilmuan, sehingga walaupun dilakukan oleh orang yang berbeda-beda namun dapat menghasilkan kesimpulan yang sama.

Sedangkan menurut Notoatmodjo dalam (Masturoh & Anggita, 2018)) membagi ke dalam 2 bagian besar cara untuk meperoleh pengetahuan yaitu:

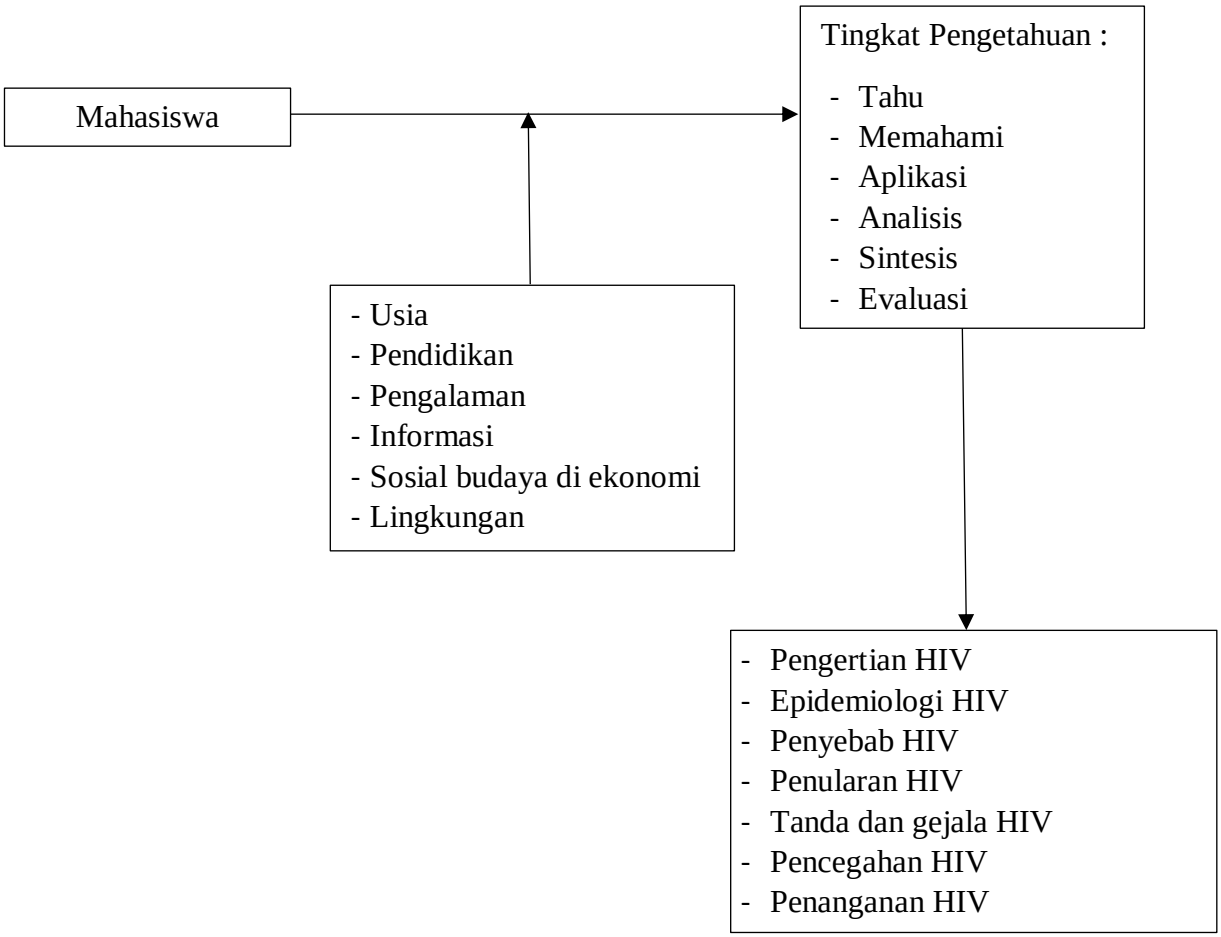
1) Cara Non Ilmiah atau Tradisional

   Cara yang biasa dilakukan oleh manusia saat sebelum ditemukan cara dengan metode ilmiah. Cara ini dilakukan oleh manusia pada zaman dulu kala dalam rangka memecahkan masalah termasuk dalam menemukan teori atau pengetahuan baru. Cara-cara tersebut yaitu melalui: cara coba salah (trial and error), secara kebetulan, cara kekuasaan atau otoritas, pengalaman pribadi, cara akal sehat, kebenaran melalui wahyu, kebenaran secara intuitif, melalui jalan pikiran, induksi dan deduksi.

2) Cara Ilmiah atau Modern

   Cara ilmiah ini dilakukan melalui cara-cara yang sistematis, logis dan ilmiah dalam bentuk metode penelitian. Penelitian dilaksanakan melalui uji coba terlebih dahulu sehingga instrumen yang digunakan valid dan reliabel dan hasil penelitiannya dapat digeneralisasikan pada populasi. Kebenaran atau pengetahuan yang diperoleh betul-betul dapat dipertanggungjawabkan karena telah melalui serangkaian proses yang ilmiah.

2.3 Kerangka Konseptual



Gambar 2.1 Kerangka Konsep

BAB 3

METODE PENELITIAN

3.1 Strategi Pencarian Literature

3.1.1 Protokol dan Registrasi

Rangkuman menyeluruh dalam bentuk *literature review* mengenai tingkat pengetahuan mahasiswa tentang penyakit HIV. Protokol dan evaluasi dari *literature review* akan menggunakan PRISMA checklist untuk menentukan penyeleksian studi yang telah ditemukan dan disesuaikan dengan tujuan dari *literature review* (Nursalam, 2020)

3.1.2 Database Pencarian

Data yang digunakan dalam penelitian ini adalah data sekunder yang diperoleh bukan dari pengalaman langsung, akan tetapi diperoleh dari hasil penelitian yang telah dilakukan oleh peneliti-peneliti terdahulu. Sumber data sekunder yang didapat berupa artikel jurnal bereputasi baik nasional maupun internasional dengan tema yang sudah ditentukan (Nursalam, 2020). Data yang digunakan berasal dari jurnal yang berisikan tentang konsep yang diteliti dengan kriteria kualitas tinggi, yaitu *PubMed* dan *Google Scholar*.

3.1.3 Kata Kunci

Pencarian artikel atau jurnal menggunakan *keyword* dan *Booleanoperator* (*AND, OR NOT* or *AND NOT*) yang digunakan untuk memperluas atau menspesifikasikan pencarian, sehingga mempermudah dalam penentuan artikel atau jurnal yang digunakan. Kata kunci dalam *literature review* ini, yaitu *"knowledge"* AND *"university student"* AND *"HIV"*.

3.2 Kriteria Inklusi dan Eksklusi

Strategi yang digunakan untuk mencari artikel menggunakan *PICOS framework* yang terdiri dari :

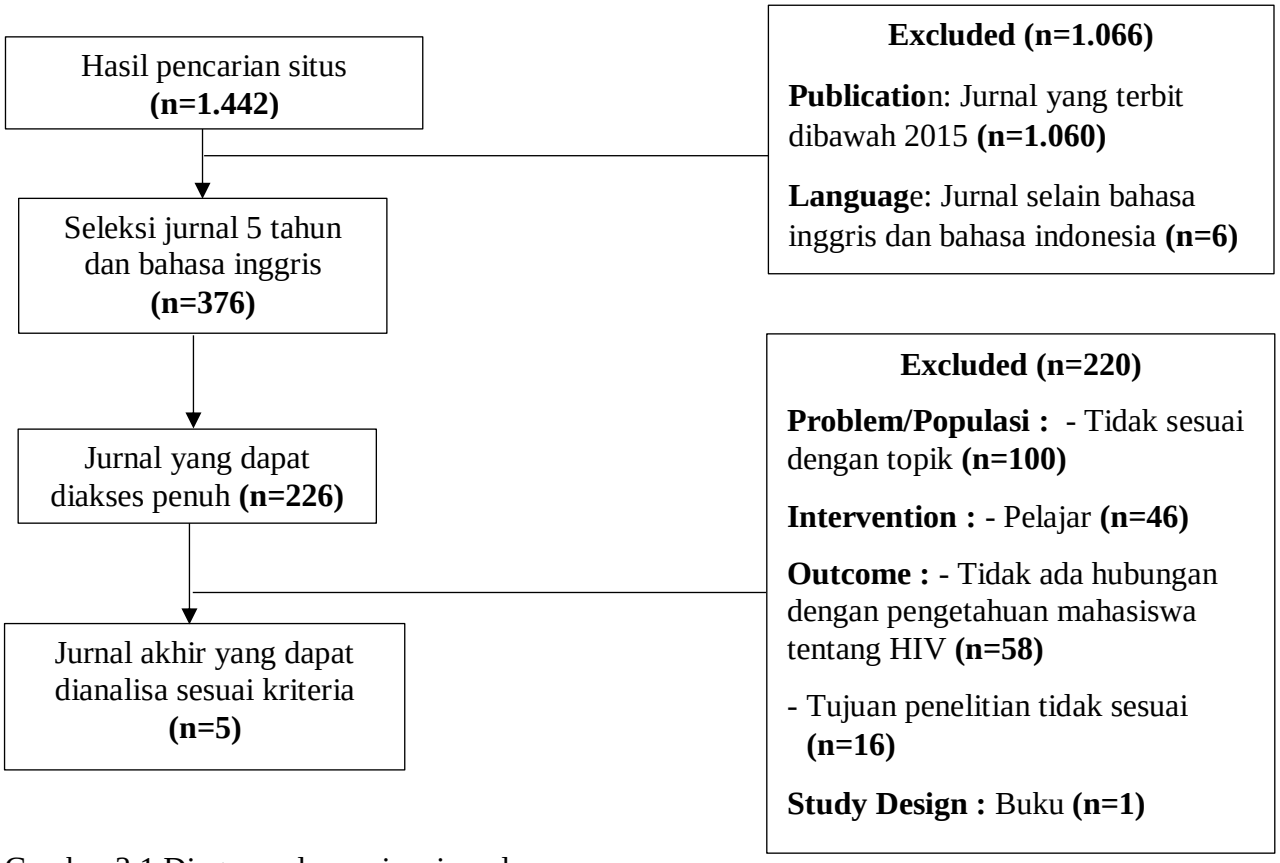
1) *Population/problem* yaitu populasi atau masalah yang akan di analisis sesuai dengan tema yakni pengetahuan mahasiswa tentang penyakit HIV.
2) *Intervention* yaitu suatu tindakan penatalaksanaan terhadap kasus perorangan atau masyarakat serta pemaparan tentang penatalaksanaan studi sesuai dengan tema yakni mahasiswa.
3) *Comparation* yaitu intervensi atau pelaksanaan lain yang digunakan sebagai pembanding, jika tidak ada bisa menggunakan kelompok kontrol dalam studi yang terpilih. Dalam *literature review* ini tidak memiliki pembandingan.
4) *Outcome* yaitu hasil atau luaran yang diperoleh pada studi terdahulu yang sesuai dengan tema hubungan tingkat pengetahuan mahasiswa terkait penyakit HIV, yaitu pengetahuan tentang cara transmisi, faktor resiko dan pencegahan penularan HIV.
5) *Study design* yaitu desain penelitian yang digunakan dalam artikel yang akan di review, kecuali *systematic/literature review*.

Kriteria	Inklusi	Ekslusi
Population / Problem	Jurnal international yang berhubungan dengan topik penelitian yakni pengetahuan mahasiswa tentang penyakit HIV	Jurnal international yang tidak berhubungan dengan pengetahuan mahasiswa tentang penyakit HIV
Intervention	Mahasiswa	Pelajar, pekerja, tutor
Comparation	Tidak ada faktor pembanding	Tidak ada faktor pembanding
Outcome	Adanya hubungan mahasiswa terhadap pengetahuan tentang cara transmisi, faktor resiko dan pencegahan penularan penyakit HIV	Tidak ada hubungan mahasiswa terhadap pengetahuan tentang penyakit HIV
Study design	*Mix methods study, experimental study, survey study, cross-sectional,* analisis korelasi, komparasi, studi kualitatif	*Systematic/literature review,* buku
Publication years	Jurnal yang terbit setelah tahun 2016	Jurnal yang terbit sebelum tahun 2016
huigyuLanguage	Bahasa inggris dan bahasa indonesia	Selain bahasa inggris dan bahasa indonesia

Tabel 3.1 Kriteria Inklusi dan Eksklusi

3.3 Seleksi Studi dan Penilaian Kualitas

Berdasarkan hasil pencarian literature melalui publikasi *PubMed* dan *Google Scholar* menggunakan kata kunci *"knowledge"* AND *"university student"* AND *"HIV"*, peneliti menemukan 1442 artikel yang sesuai dengan kata kunci tersebut. Jurnal penelitian tersebut kemudian diskrining, sebanyak 376 artikel diekslusi karena terbitan tahun 2015 kebawah dan menggunakan bahasa selain bahasa inggris dan indonesia. Assessment kelayakan terhadap 226 artikel, artikel yang tidak sesuai dengan kriteria inklusi dilakukan eksklusi, sehingga didapatkan 5 artikel yang akan dilakukan review.



Gambar 3.1 Diagram alur review jurnal

BAB 4

HASIL DAN ANALISIS

4.1 Hasil

4.1.1 Karakteristik Studi

Lima artikel yang di dapatkan penulis memenuhi kriteria inklusi dan kelima artikel menggunakan metode penelitian kuantitatif dengan pendekatan *cross sectional*. Semua artikel penelitian membahas tentang pengetahuan mahasiswa tentang cara penularan dan pencegahan penyakit HIV. Artikel yang digunakan terbit dalam rentang tahun 2018-2020, dua penelitian tahun 2018, satu penelitian tahun 2019 dan dua penelitian tahun 2020. Hasil analisis artikel ditampilkan ke dalam bentuk tabel sebagai berikut :

Tabel 4.1 Hasil Analisis

Penulis dan Tahun Terbit	**Judul**	**Metode (Desain Penelitian, Sampel, Variabel, Instrumen, Analisis)**	**Hasil**	**Kesimpulan**
Rahima Jahić, Humera Porobić-Jahić, Denis Žepić, Dilista Piljić, Jasminka Petrović, Amer Čustović (2020)	Knowledge, attitude and stigma towards HIV patients: a survey among medical students in Tuzla, Bosnia and Herzegovina	**D**: *Cross-sectional survey* **S**: Total sampel 171 mahasiswa **V**: Menilai tingkat pengetahuan dan stigma terhadap pasien HIV; menilai faktor risiko potensial untuk infeksi HIV **I**: Kuesioner **A**: Analisis statistik menggunakan *MedCalc*	Hasil penelitian pada artikel ini menunjukkan $p < 0{,}0001$; $r = 0{,}34$	Dari analisis di dapatkan data bahwa ada hubungan yang cukup signifikan antara tingkat pengetahuan HIV/AIDS dan sikap positif terhadap HIV/AIDS pada siswa.

		software version 8.1. Variabel diuji dengan uji *Kolmogorov-Smirnov*. *Spearman* dan *Kruskal-Wallis* digunakan untuk membandingkan variabel		
Prince Onyekachi Andrew, Azad Bhuiyan, Anthony Mawson, Sarah G. Buxbaum, Jung Hye Sung and Mohammad Shahbazi (2018)	HIV/AIDS Knowledge of Undergraduate Students at a Historically Black College and University	**D**: *Cross-sectional survey* **S**: *Convenience sampling* dengan total sampel 400 mahasiswa **V**: Menilai pengetahuan tentang HIV dan AIDS di kalagan mahasiswa	Hasil penelitian pada artikel ini menunjukkan *($\chi 2 = 3.05$; $P = 0.08$)*	Dari analisis di dapatkan data bahwa mahasiswa memiliki pengetahuan yang baik tentang HIV dan AIDS. Tidak ada perbedaan yang signifikan antara jenis kelamin dengan

		I: Kuesioner yang diadaptasi dan telah dimodifikasi **A**: Analisis *SAS® 9.3 statistical software (SAS Institute Inc.,2012)*. Uji *Chi-Square* diterapkan untuk menentukan hubungan antara pengetahuan dan jenis kelamin.		pengetahuan HIV dan AIDS.
Mohan B Sannathimmappa, Vinod Nambiar (2019)	HIV/AIDS and Its Prevention: A Cross-sectional Study to Evaluate Knowledge,	**D**: *Cross-sectional study* **S**: Total sampel 117 mahasiswa kedokteran **V**: Evaluasi pengetahuan dan kesadaran tentang HIV dan	Hasil penelitian pada artikel ini menunjukkan persentase 100%	Dari analisis di dapatkan data bahwa semua mahasiswa pernah mendengar tentang HIV

	Awareness, and Attitude among Medical Students	AIDS, sikap mahasiswa kedokteran terhadap pasien HIV dan AIDS **I**: Kuesioner yang telah dimodifikasi **A**: Analisis menggunakan Microsoft Excel and SPSS versi 22		dan AIDS dan agen penyebabnya..
Simran Batra, Zahid Ali Memon, Rohan Kumar Ochani, Sana Awan, Simran Bhimani, Yumna	Knowledge, attitude and practice of medical students towards HIV patients in their pre-clinical and postclinical	**D**: *Cross-sectional study* **S**: *Convenience sampling* dengan sampel sebanyak 518 mahasiswa kedokteran	Hasil penelitian pada artikel ini menunjukkan *(p=0.020)*.	Dari analisis di dapatkan data bahwa ada hubungan yang signifikan ditemukan antara belajar tentang

Siddiqui, Ashar Mohiuddin, Hamza Ahmed Farooqi (2020)	years in Karachi, Pakistan: a dual-center cross-sectional study	**V**: Menilai pengetahuan, sikap dan praktik mahasiswa kedokteran terhadap pasien HIV di tahun pra-klinis dan pasca-klinis **I**: Kuesioner **A**: Analisis menggunakan SPSS versi 25, Uji *Chi-square* dan uji *Kruskal-Wallis*		HIV melalui tenaga medis
Linda Prasetyaning Widayanti, Sri Hidayati, Nova	Hubungan Pengetahuan Tentang HIV/AIDS dan Sikap Mahasiswa Terhadap ODHA	**D**: *Cross-sectional* **S**: Teknik sampel dengan *proportional sampling* sebanyak 250 mahasiswa	Hasil penelitian pada artikel ini menunjukkan *p value sebesar 0,000*	Dari analisis di dapatkan data bahwa ada hubungan antara pengetahuan tentang

Lusiana, Muhamad Ratodi (2018)		**V**: Mengetahui hubungan pengetahuan tentang HIV/AIDS dengan sikap mahasiswa Surabaya terhadap ODHA **I**: Kuesioner daring **A**: Analisis data dengan SPSS dan uji statistik *Contingency Phi*		HIV/AIDS dengan sikap mahasiswa terhadap ODHA

4.1.2 Karakteristik Responden

4.1.2.1 Usia

Penulis	Usia
Rahima Jahić, Humera Porobić-Jahić, Denis Žepić, Dilista Piljić, Jasminka Petrović, Amer Čustović	23-25 tahun
Prince Onyekachi Andrew, Azad Bhuiyan, Anthony Mawson, Sarah G. Buxbaum, Jung Hye Sung, Mohammad Shahbazi	17-57 tahun
Mohan B Sannathimmappa, Vinod Nambiar	-
Simran Batra, Zahid Ali Memon, Rohan Kumar Ochani, Sana Awan, Simran Bhimani, Yumna Siddiqui, Ashar Mohiuddin, Hamza Ahmed Farooqi	-
Linda Prasetyaning Widayanti, Sri Hidayati, Nova Lusiana, Muhamad Ratodi	16-23 tahun

Tabel 4.2 Usia

Berdasarkan tabel 4.2, penelitian yang dilakukan oleh (Jahić, et al., 2020) usia responden terdiri dari 23 sampai 25 tahun. Sedangkan pada penelitian yang dilakukan oleh (Andrew, et al., 2018) adalah responden yang berusia antara 17 sampai 57 tahun. Pada penelitian yang dilakukan oleh (Widayanti, Hidayati, Lusiana, & Ratodi, 2018) usia responden berkisar antara 16 sampai 23 tahun. Penelitian yang dilakukan oleh (Batra, et al., 2020) usia responden yang digunakan dalam penelitian ini juga tidak dijelaskan secara rinci. Sejalan dengan penelitian yang dilakukan oleh (Sannathimmappa & Nambiar , 2019) usia responden tidak dijelaskan secara rinci.

4.1.2.2 Jenis Kelamin

Penulis	Jenis Kelamin	
	Laki-laki	Perempuan
Rahima Jahić, Humera Porobić-Jahić, Denis Žepić, Dilista Piljić, Jasminka Petrović, Amer Čustović	56	115
Prince Onyekachi Andrew, Azad Bhuiyan, Anthony Mawson, Sarah G. Buxbaum, Jung Hye Sung, Mohammad Shahbazi	141	255
Mohan B Sannathimmappa, Vinod Nambiar	-	-
Simran Batra, Zahid Ali Memon, Rohan Kumar Ochani, Sana Awan, Simran Bhimani, Yumna Siddiqui, Ashar Mohiuddin, Hamza Ahmed Farooqi	236	282
Linda Prasetyaning Widayanti, Sri Hidayati, Nova Lusiana, Muhamad Ratodi	45	205

Tabel 4.3 Jenis Kelamin

Berdasarkan tabel 4.3, penelitian yang dilakukan (Jahić, et al., 2020) jenis kelamin responden pada penelitian ini sebagian besar adalah perempuan sebanyak 115 responden dan laki-laki sebanyak 56 responden. Sedangkan penelitian yang dilakukan oleh (Andrew, et al., 2018) jumlah responden laki- laki yaitu sebanyak 141 responden, lebih sedikit dibandingkan dengan responden perempuan yang berjumlah 255 responden. Penelitian yang dilakukan (Widayanti, Hidayati, Lusiana, & Ratodi, 2018) responden laki- laki hanya 45 responden jauh lebih sedikit dari jumlah responden berjenis kelamin perempuan yaitu 205 responden. Pada penelitian (Batra, et al., 2020) responden yang berjenis kelamin perempuan sebanyak 282 responden dan responden laki-laki sebanyak 236 responden. Sedangkan penelitian yang dilakukan oleh (Sannathimmappa & Nambiar , 2019) tidak menjelaskan jenis kelamin responden.

4.2 Analisa

4.2.1 Tingkat pengetahuan tentang cara transmisi HIV

Penulis	Cara Transmisi HIV		Ya	Tidak	Tingkat Pengetahuan	n
Rahima Jahić, Humera Porobić-Jahić, Denis Žepić, Dilista Piljić, Jasminka Petrović, Amer Čustović	**Benar**	Seks tanpa pengaman dengan penderita HIV	100%	0%	Baik (59,85%) Buruk (40,15%)	171
		Darah	100%	0%		
		Infeksi dari ibu ke anak	96,5%	3,5%		
		Menggunakan peralatan cukur dan sikat gigi yang sama	53,8%	46,2%		
	Salah	Gigitan nyamuk	5,3%	94,7%		
		Konsumsi makanan di restoran dari chef yang menderita AIDS	3,5%	96,5%		
Prince Onyekachi Andrew, Azad Bhuiyan, Anthony Mawson, Sarah G. Buxbaum, Jung Hye Sung, Mohammad Shahbazi	**Benar**	Seks tanpa kondom	97,3%	2,7%	Baik (71,8%) Buruk (28,2%)	400
		Berbagi jarum dan benda tajam yang sudah terinfeksi, misalnya silet, pemotong kuku, lanset, spuit	97,3%	2,7%		
		Melalui air mani yang terinfeksi	97,2%	2,8%		
		Transmisi dari ibu yang terinfesi ke anak	94,3%	5,7%		
		Menerima darah yang terinfeksi	92,3%	7,7%		
	Salah	HIV ditularkan melalui gigitan serangga	54,5%	45,5%		
		HIV ditularkan melalui berbagi pakaian	20%	80%		
		HIV ditularkan melalui toilet umum	21,7%	78,3%		
Mohan B Sannathimmappa, Vinod Nambiar	**Benar**	Hubungan seksual dengan penderita HIV	97,43%	2,57%	Baik (59,9%) Buruk (40,1%)	117
		Transfusi darah dan produk darah yang tidak diskrining	93,16%	6,84%		
		Penggunaan jarum suntik yang terkontaminasi	88,89%	11,11%		
		Berbagi jarum suntik/jarum suntik pengguna narkoba	86,32%	13,68%		

		Ibu ke bayi melalui ASI	54,7%	45,3%		
		Ibu ke bayi melalui plasenta	83,76%	16,24%		
	Salah	Berpelukan dan berjabat tangan dengan orang yang terinfeksi HIV	12,82%	87,18%		
		Berbagi toilet dan kamar mandi dengan orang yang terinfeksi HIV	28,21%	71,79%		
		HIV menyebar melalui gigitan serangga penghisap darah	39,32%	60,68%		
		Berbagi gelas dengan orang yang terinfeksi	14,52%	85,48%		
Simran Batra, Zahid Ali Memon, Rohan Kumar Ochani, Sana Awan, Simran Bhimani, Yumna Siddiqui, Ashar Mohiuddin, Hamza Ahmed Farooqi	**Benar**	Penularan lewat cairan tubuh (semen/ cairan rektal/ cairan vagina/ ASI) dari orang yang terinfeksi HIV	94,8%	5,2%	Baik (53,1%) Buruk (46,9%)	518
		Hubungan seksual tanpa kondom	68,9%	31,1%		
		Tato dan tindik	52,5%	47,5%		
	Salah	Ciuman	29,1%	70,9%		
		Sentuhan	41,7%	58,3%		
		Batuk dan bersin	31,5%	68,5%		
Linda Prasetyaning Widayanti, Sri Hidayati, Nova Lusiana, Muhamad Ratodi	**Benar**	Melalui transfusi darah	96%	4%	Baik (80,23%) Buruk (19,77%)	250
		Tidak melalui bertukar pakaian	73,2%	26,8%		
		Menular dari ibu hamil kepada bayinya	92,4%	7,6%		
		Menular lewat perilaku homoseksual	86,4%	13,6%		
		Menular lewat oral seks	83,7%	16,3%		
		Tidak menular lewat masturbasi	65,9%	34,1%		
		Tidak menular melalui gigitan nyamuk	80,3%	19,7%		
		Tidak menular lewat bertukar peralatan makan	46,6%	53,4%		
		Menular lewat alat suntik/NAPZA secara bersama-sama	97,6%	2,4%		

Tabel 4.4 Tingkat pengetahuan tentang cara transmisi HIV

Berdasarkan tabel 4.4, tingkat pengetahuan mahasiswa tentang cara transmisi pada 5 artikel yang telah dianalisa menunjukkan hasil bahwa responden mengetahui dengan baik tentang cara transmisi HIV diatas 50%. Tabel 4.4 juga menunjukkan bahwa responden sebagian besar mengetahui cara transmisi HIV melalui seks tanpa pengaman (100%), melalui alat suntik/NAPZA secara bersama-sama (97,6%), dan lewat seks dengan penderita HIV (97,3%), namun (54,5%) responden dalam artikel (Andrew, et al., 2018) menjawab bahwa HIV dapat ditularkan melalui gigitan serangga dan dalam penelitian (Batra, et al., 2020) hampir sebagian responden (41,7%) menjawab penularan HIV lewat sentuhan.

4.2.2 Tingkat pengetahuan tentang pencegahan penularan HIV

Penulis	Pencegahan		Ya	Tidak	Tingkat Pengetahuan	n
Rahima Jahić, Humera Porobić-Jahić, Denis Žepić, Dilista Piljić, Jasminka Petrović, Amer Čustović	**Benar**	Penggunaan kondom yang tepat dan teratur menurunkan risiko infeksi HIV	97,1%	2,9%	Baik (50,6%) Buruk (49,4%)	171
	Salah	Pil kontrasepsi mencegah infeksi HIV	4,1%	95,9%		
Prince Onyekachi Andrew, Azad Bhuiyan, Anthony Mawson, Sarah G. Buxbaum, Jung Hye Sung, Mohammad Shahbazi	**Benar**	Penggunaan kondom secara konsisten dapat mencegah infeksi HIV	71,3%	28,7%	Baik (68,97%) Buruk (31,03%)	400
		Pantang berhubungan seksual	87,3%	12,7%		
		Menghindari alkohol dan penyalahgunaan narkoba	48,3%	51,7%		
Mohan B Sannathimmappa, Vinod Nambiar	**Benar**	Menghindari berganti-ganti pasangan	100%	0%	Baik (86,3%) Buruk (13,7%)	117
		Transfusi darah yang aman	93,16%	6,84%		
		Penggunaan kondom	77,78%	22,22%		
		Menghindari berbagi jarum suntik	74,36%	25,64%		
Simran Batra, Zahid Ali Memon, Rohan Kumar Ochani, Sana Awan, Simran Bhimani, Yumna Siddiqui, Ashar Mohiuddin, Hamza Ahmed Farooqi	**Benar**	Menghindari banyak pasangan seks	61.6%	38,4%	Baik (61,6%) Buruk (38,4%)	518
Linda Prasetyaning Widayanti, Sri Hidayati, Nova Lusiana, Muhamad Ratodi	**Benar**	Penggunaan kondom	65,9%	34,1%	Baik (77,55%) Buruk (22,45%)	250
		Setia kepada pasangan	89,2%	10,8%		

Tabel 4.5 Tingkat pengetahuan tentang pencegahan HIV

Berdasarkan tabel 4.5, menunjukkan bahwa tingkat pengetahuan mahasiswa tentang pencegahan penularan HIV pada 5 artikel yang telah dianalisa hasilnya yaitu responden mengetahui dengan baik tentang pencegahan penularan HIV diatas 50%. Tabel 4.5 juga menunjukkan bahwa responden sebagian besar mengetahui pencegahan penularan HIV dengan menggunakan kondom secara benar dan teratur (97,1%), menghindari berganti-ganti pasangan (100%), transfusi darah yang aman (92,16%), pantang hubungan seksual (87,3%), setia pada pasangan (89,2%), menghindari berbagi jarum suntik (74,36%). Namun ada kesalahpahaman dalam penggunaan pil kontrasepsi sebagai pencegahan penularan HIV.

BAB 5

PEMBAHASAN

5.1 Identifikasi Tingkat Pengetahuan Cara Transmisi HIV

Berdasarkan 5 artikel yang sudah ditelaah, menunjukkan hasil bahwa tingkat pengetahuan mahasiswa tentang cara transmisi HIV responden mengetahui dengan sangat baik. Hasil yang sama ditemukan dalam penelitian (Wahyuny & Susanti, 2019) pengetahuan mahasiswa tentang cara penularan HIV/AIDS berpengetahuan baik yaitu sebanyak 45 orang (45%), mahasiswa yang berpengetahuan cukup yaitu sebanyak 35 orang (35%) yang dapat disimpulkan bahwa sebagian besar mahasiswa berpengetahuan baik.

HIV adalah salah satu penyakit yang menular. Namun penularannya tak semudah seperti virus influenza. Virus HIV berada dalam darah, cairan vagina dan sperma (Kurniawati & Diniyah, 2018). Dalam penelitian ini, ditemukan bahwa sebagian besar responden mengetahui penularan melalui seks tanpa pengaman dengan penderita HIV (100%), seperti dalam penelitian (Haroun, 2016) 86% mahasiswa mengetahui penularan infeksi HIV lewat hubungan seksual tanpa pengaman. Untuk cara penularan lain mahasiswa mengetahui dengan baik transmisi melalui alat suntik/NAPZA secara bersama-sama (97,6%), berbagi jarum serta benda tajam yang sudah terinfeksi, misalnya silet, pemotong kuku, lanset, spuit (97,3%), dan transfusi darah (93,16%).

Penelitian (Haroun, 2016) di UEA juga mendapatkan hasil yang sama bahwa 85% mahasiswa mengetahui penularan lewat transfusi darah. Berdasarkan kelima artikel ditemukan beberapa kesalahpahaman tentang cara transmisi HIV, dari hasil analisa ada (54,5%) responden dalam artikel (Andrew, et al., 2018) memberikan jawaban yang salah bahwa HIV dapat ditularkan melalui gigitan serangga, hal ini juga ditemukan dalam peneltian yang dilakukan (Haroun, 2016) 27% mahasiswa laki-laki percaya gigitan nyamuk dapat menularkan HIV. Dalam artikel (Batra, et al., 2020) hampir sebagian responden (41,7%) menjawab penularan HIV lewat sentuhan, ciuman (29,1%), batuk dan bersin (31,5%). Responden dalam penelitian (Sannathimmappa & Nambiar , 2019) menjawab bahwa penularan bisa melalui berpelukan dan berjabat tangan dengan orang yang terinfeksi HIV (12,82%), berbagi toilet dan kamar mandi dengan orang yang terinfeksi HIV (28,21%), berbagi gelas dengan orang yang terinfeksi (14,52%). Dan dalam penelitian (Andrew, et al., 2018) juga terdapat kesalapahaman bahwa HIV ditularkan melalui berbagi pakaian (20%). Padahal HIV tidak menular melalui bekerja bersama dengan orang yang terkena infeksi HIV, gigitan nyamuk atau serangga lain, sentuhan tangan atau saling pelukan, hubungan seks dengan menggunakan kondom, penggunaan alat makan bersama, penggunaan toilet bersama dan semprotan bersin atau batuk. (Kurniawati & Diniyah, 2018).

Sebagian besar responden lebih memahami penularan HIV melalui seks tanpa pengaman atau kondom, hal ini bisa saja disebabkan karena kondom sebagai merupakan salah satu alat kontrasepsi pria yang paling mudah

dipakai dan diperoleh baik di apotik maupun di toko-toko obat dengan berbagai merek dagang dan pengetahuan mahasiswa mengenai penularan melalui cairan vagina atau air mani. Namun, kondom kemungkinan tidak bisa memberikan perlindungan yang mutlak bila dipakai dengan tidak benar, penggunaan yang tidak konsisten, dan cacat produksi yang kemungkinan dapat menyebabkan kerusakan. Penelitian (Lourensius, 2015) menyebutkan penggunaan kondom tidak 100% efektif mencegah transmisi infeksi virus seksual, termasuk HIV. Kondom menawarkan beberapa penawaran jika digunakan dengan benar dan konsisten.

Selain itu ukuran pori-pori kondom jika normal 6 nm dan ketika digunakan membesar jadi 60 nm lebih besar dari ukuran virus HIV yang berukuran 250 nm, sehingga kondom tidak bisa secara efektif melindungi. Oleh karena itu, kondom tidak bisa selalu dianggap sebagai bagian dari perlindungan terhadap penularan penyakit HIV.

Adanya pengetahuan yang kurang baik mengenai cara transmisi HIV ini dapat dipengaruhi oleh perilaku seksual, menurut (Hidayat, 2012) menyebutkan bahwa penularan AIDS di Indonesia lebih dominan terhadap perilaku seksual. Perilaku seksual sendiri dilatarbelakangi oleh faktor pengetahuan, lingkungan dan sosial budaya. Hasil penelitian (Kesumawati, 2019) perilaku seksual responden yang kurang dipengaruhi oleh faktor pengaruh teman sebaya, dan lingkungannya. Kemudian hasil penelitian dari (Heralita, et al., 2011) menunjukkan terdapat hubungan antara pengetahuan akan AIDS dengan perilaku seks pranikah pada mahasiswa. Sedangkan menurut (Rahman & Wahyuni, 2020) pengetahuan mengenai HIV/AIDS

bukan merupakan satu-satunya faktor yang dapat mempengaruhi perilaku seksual seseorang. Faktor emosional dapat menjadi salah satu faktor yang mempengaruhi perilaku seksual seseorang.

Penelitian yang dilakukan (Andrew, et al., 2018) didapatkan hasil bahwa tidak ada hubungan signifikan antara tingkat pengetahuan dengan jenis kelamin responden.

5.2 Identifikasi Tingkat Pengetahuan Pencegahan Penularan HIV

Kelima artikel yang sudah dianalisa menunjukkan hasil bahwa tingkat pengetahuan mahasiswa tentang pencegahan penularan HIV sebagian besar responden mengetahui dengan baik. Hasil penelitian ini sejalan dengan yang dilakukan (Sabda, 2019) bahwa responden sudah memiliki pengetahuan yang baik mengenai pencegahan HIV/AIDS dengan sebanyak 51 responden (82,26%) menjawab beberapa pertanyaan dengan benar, sedangkan 11 responden (17,74%) sudah memiliki pengetahuan yang cukup.

Berdasarkan hasil analisa artikel dalam penelitian ini, sebagian besar responden mengetahui dengan baik cara pencegahan penularan HIV dengan menggunakan kondom yang tepat dan teratur menurunkan dapat risiko infeksi HIV (97,1%), penggunaan kondom secara konsisten dapat mencegah infeksi HIV (71,3%). Hal ini juga sama dengan penelitian dari (Bona, 2017) sebanyak 88,7% mengetahui bahwa penggunaan kondom yang benar merupakan salah satu cara pencegahan penularan HIV. Selain penggunaan kondom, dari hasil analisa kelima artikel juga terdapat cara pencegahan dengan pantang berhubungan seksual (87,3%), menghindari berganti-ganti

pasangan (100%), berlaku setia pada pasangan (89,2%), menghindari alkohol dan penyalahgunaan narkoba (48,3%), transfusi darah yang aman (93,16%), dan menghindari berbagi jarum suntik (74,36%). Hal ini masuk dalam formula pencegahan HIV yang dikenal dengan konsep "ABCDE", yaitu A (Abstinence) artinya absen seks atau tidak melakukan hubungan seks bagi yang belum menikah; B (Be faithful) artinya bersikap saling setia kepada satu pasangan seks (tidak berganti-ganti pasangan); C (Condom) artinya cegah penularan HIV melalui hubungan seksual dengan menggunakan kondom; D (Drug No) artinya dilarang menggunakan narkoba; E (Education) artinya pemberian edukasi dan informasi yang benar mengenai HIV, cara penularan, pencegahan dan pengobatannya. (INFODATIN, 2021). Namun, dari hasil penelitian ini ditemukan kekeliruan dalam pencegahan HIV yaitu sebanyak (95,9%) responden memilih pil kontrasepsi sebagai pencegahan infeksi HIV. Menurut (Curtis, et al., 2020), pil kontrasepsi tidak termasuk sebagai salah satu pencegahan dalam penularan HIV. Ini adalah kesalahpahaman yang jarang terjadi tetapi penting untuk digarisbawahi bahwa diperlukan intervensi pendidikan kesehatan untuk membuat mahasiswa mendapat informasi tentang HIV dan AIDS secara benar.

Kekeliruan dalam pencegahan penularan HIV ini bisa terjadi karena pengetahuan seseorang dipengaruhi oleh beberapa faktor seperti pendidikan dan media informasi. Menurut (Astutik dalam (Sanifah, 2020)) pengetahuan seseorang dipengaruhi oleh usia, pendidikan, informasi, pengalaman, dan sosial budaya ekonomi. Kekeliruan ini tentu harus dibenahi dengan segera

melalui pemberian pengetahuan yang tepat mengenai pencegahan dan penularan HIV agar mahasiswa bisa memiliki keyakinan bahwa perilaku seksual yang sehatlah yang justru akan membuat mereka terbebas dari penularan HIV. Hal ini sejalan dengan penelitian yang dilakukan oleh (Astuti, 2018) dimana pada penelitian tersebut didapatkan sebagian besar responden dengan kejadian IMS positif memiliki tingkat pendidikan dasar dengan tingkat pengetahuan tentang IMS masih kurang, artinya tingkat pendidikan seseorang akan mempengaruhi tingkat pengetahuannya yang akhirnya berdampak juga terhadap perilaku orang tersebut.

Pengetahuan yang baik dapat berkontribusi pada sikap positif pada seseorang, oleh karena itu pemahaman yang lebih baik tentang proses penularan dan pencegahan penyakit HIV lewat pendidikan kesehatan pada mahasiswa sangat penting sebagai sarana untuk pencegahan yang efektif terhadap penyakit HIV/AIDS pada mahasiswa. Perilaku yang didasari pengetahuan kemungkinan akan lebih efektif daripada yang tidak didasarkan pengetahuan.

BAB 6

KESIMPULAN DAN SARAN

6.1 Kesimpulan

Berdasarkan hasil *literature review* yang telah dilakukan mengenai tingkat pengetahuan mahasiswa tentang penyakit HIV, dapat disimpulkan bahwa :

a. Tingkat pengetahuan mahasiswa mengenai cara transmisi penyakit HIV, yaitu baik dengan sebagian besar responden mengetahui secara baik salah satu cara transmisi atau penularan HIV, yaitu melalui cairan tubuh.
b. Tingkat pengetahuan mahasiswa mengenai pencegahan penularan penyakit HIV, yaitu mereka mengetahui dengan baik untuk konsisten menggunakan kondom, menghindari hubungan seksual dengan banyak pasangan dan setia pada satu pasangan saja, namun ada kesalahpahaman mengenai pencegahan penularan infeksi HIV dengan penggunaan pil kontrasepsi.

6.2 Saran

a. Bagi Mahasiswa

   Melakukan kegiatan positif seperti berolahraga, aktif dalam organisasi serta menghindari lingkungan yang bisa mengakibatkan dampak yang negatif seperti seks bebas.

b. Bagi Bidang Pendidikan

Memberikan penyuluhan kesehatan, khususnya tentang perbedaan antara HIV dan AIDS, gejala yang ditimbulkan, cara penularan dan cara pencegahan infeksi HIV/AIDS dan berbagai macam penyakit akibat IMS.

c. Bagi Tenaga Kesehatan

Berkolaborasi dengan pihak di bidang pendidikan untuk memberikan penyuluhan tentang kesehatan reproduksi dan berbagai macam penyakit akibat perilaku seks bebas.

d. Bagi Orang Tua

Peran orang tua dibutuhkan dalam pencegahan HIV/AIDS, dengan memberikan kasih sayang dan perhatian kepada anaknya sehingga anak tidak terjerumus dalam mencari kesenangan atau perhatian secara tidak baik, seperti pergaulan bebas dan hubungan seks bebas.

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DAFTAR LAMPIRAN

Lampiran 1

JIDC | THE JOURNAL OF INFECTION IN DEVELOPING COUNTRIES

Original Article

Knowledge, attitude and stigma towards HIV patients: a survey among medical students in Tuzla, Bosnia and Herzegovina

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Abstract

Introduction: This survey aims to assess knowledge, attitude and stigma towards HIV patients, among medical students in Tuzla, Bosnia and Herzegovina. We also aimed to assess potential risk factors for HIV infection among fourth year medical students.

Methodology: Data were collected from specific questionnaire that was completed by 171 students of the Faculty of Medicine, University of Tuzla. A multivariable logistic regression was performed.

Results: Majority of students (79%) had a good knowledge of HIV, (median value of correct answers was 9 (95%) with at least 6 correct responses). Also, majority of students (73.6%) had a positive attitude towards HIV patients and the median positive value was 6 (95% CI: 6-7). More than a third of students considered that all hospitalized patients should be tested for HIV. Total of 81% of students considered that they should inform the sexual partner of HIV positive patient, although she/he disagrees. 61.4% of students had a discriminatory attitude towards HIV, with the median values of 3 (95% CI: 3-3). Multivariate regression analysis identified positive attitude towards HIV patients as an independent predictor for a non-discriminatory attitude. Moreover, an overall attitude towards HIV patients defines student's determination to work with AIDS population. Male gender, and older age, were identified as predictors of risky behavior.

Conclusions: Preventive measures, including better HIV education, are crucial. Knowledge can increase awareness of HIV infection, decrease the incidence and reduce stigma towards HIV patients.

Key words: Knowledge; attitude; HIV; discrimination; students.

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Introduction

HIV/AIDS (Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome) has been a global problem for the last 30 years. However, due to antiretroviral therapy, HIV has become a chronic disease and, as a consequence, an important public health problem [1]. Having a professional relationship with HIV patients, without the influence of stigma is crucial in everyday clinical practice. It is very important that medical students have adequate knowledge regarding HIV infection and positive attitude towards HIV patients (people living with HIV–PLWH).

HIV/AIDS is a disease that primarily targets stigmatized population with high-risk behavior and lack of knowledge regarding HIV and other sexually transmitted diseases but there is also a risk for the rest of the population. Vulnerability and stigma are factors that can prevent HIV positive people to seek care for early diagnosis and treatment [2]. According to The World Health Organization (WHO) young people (18-24 years old) make 50% of all newly diagnosed HIV positive cases which indicates the need for implementing a better education regarding this issue [3]. Globally, a lot of young people use drugs and alcohol to relax and have fun. The everyday pressure, frustrations, fear, stress, anxiety have been identified as factors for risky behavior [4]. The incidence rate of new HIV infections did not satisfy the goals set by the UN General Assembly in 2016: less than 500,000 new infections annually by the year 2020 [5].

Bosnia and Herzegovina (B&H) is located in the south-eastern region of Europe which has been recognized as one of the fastest growing HIV epidemic regions in the world. Although the prevalence of HIV in B&H is low, this country has specific characteristics that could lead to epidemic. The young in Bosnia have increased risk factors for acquiring HIV infection due to social and economic status as a consequence of transition and war events such as: high migration rate, unemployment, poverty, stigmatized homosexual community, large population of migrants and asylum seekers [6]. Since the first documented HIV infection in

B&H in 1986, the official estimation of HIV cases in the country had reached 369 cases at the end of 2019, giving a national infection rate of less than 1% in the general population. However, these data are only the estimates. Approximately 80% of HIV infected persons do not know their serostatus, which is a serious public health problem, as it may lead to spread of infection. According to the mode of transmission, the dominant mode of HIV infection is unprotected sexual intercourse, namely MSM (men who have sex with men) 49.3%, heterosexual with 40.5%, and injecting drug users with 6.7%. In recent years, there has been an increase in HIV infection among the MSM population. A lack of knowledge can create a negative attitude towards people living with HIV [7]. Health education about HIV depends on many different factors: socio-demographic characteristics, gender, age, origin, religion, tradition, and potential contacts with HIV [8]. Therefore, the aim of this study was to assess the level of knowledge and stigma towards HIV patients, among students of the fourth year of the Faculty of Medicine at the University of Tuzla.

Methodology

We conducted a cross-sectional survey using a questionnaire, that was specifically designed by 4 infectious disease specialists, trained in HIV disease. Several previously validated questionnaires were used in the design of the study [9,10]. The final version had 24 questions, related to socio-demographic data, knowledge of HIV transmission and prevention, attitude towards HIV infected individuals and possible discrimination, risk behavior, compliance with treatment. On the World AIDS Day and during the "European Testing Week" participating students were included in a study. The research group included 203 students of the fourth year, (academic 2016/2017). Total of 171 students (84.2%) completed the questionnaire. We used multiple choices questions with possible answers: 'yes', 'no' or 'I do not know'. A student's knowledge of HIV/AIDS was evaluated by 11 questions. Each correct answer was given 1 point and incorrect 0. Maximum number of points was 11. Total result from 0 to 5 was considered as poor knowledge, 6-8 average, and 9-11 represented a good knowledge of HIV. The global stigma against HIV patients was assessed by 10 questions. 1 point was given for each positive and 0 for each negative answer. Points between 0 and 5 were marked as negative attitude towards HIV patients while points between 6 and 10 were marked as positive. Possible discrimination in various health care procedures was assessed with six questions and scoring, with a minimum of 1 and a maximum of 6. Statistical analysis was performed using the MedCalc software, version 8.1 (MedCalc Software, Mariakerke, Belgium). The distribution of the variables was tested with a Kolmogorov-Smirnov test. Spearman's correlation coefficient and Kruskal-Wallis were used to compare the tested variables. Multivariate logistic regression analysis has estimated the predictive value of significant variables in relation to independent variables: the will to treat AIDS patients and AIDS stigma. The difference between the samples was considered significant if $p < 0.05$. This study was approved by the Ethics Review Committee for Scientific Research Work of the University of Tuzla, in December, 2019.

Table 1. Demographic characteristics of the students.

Variable	N (%)
Answer rate	171 (100)
Age (years)	24 (23-25) *
≤19 years	0 (0)
≥ 20 years	171 (100)
Gender	
Female	115 (67.3)
Male	56 (32.7)
Residence	
City	119 (69.6)
Village	36 (21.0)
Suburban area	16 (9.4)
Previous education on STD's	
Yes	160 (93.6)
No	10 (5.8)
Not sure	1 (0.6)

Results

Out of 203 medical students of both genders from the fourth study year, 171 filled the questionnaire and were included in the study, with average age of 24 years old and females were predominant (67.3%). The percentage of pre-education about sexual transmitted diseases was high (93.6%) (Table 1). We found a satisfactory level of knowledge about HIV among students. More than a half of the students (53.8%) think that HIV is transmitted using common shaving accessories, and 57% did not know that after the accidental injury by a needle in AIDS patients, the likelihood of acquiring HIV is up to 0.5% (Tables 2 and 3).

The students' knowledge regarding HIV was evaluated by 11 questions, and the median value of the correct answers was 9 (95%), with at least 6 correct answers, while 18 (10.5%) students answered correctly all HIV/AIDS related questions. According to that, 79%

Table 2. Students' knowledge regarding HIV/AIDS.

Question	Correct answer N (%)	Incorrect answer N (%)
HIV/AIDS is a sexually transmitted disease that weakens immune system	169 (98.8)	2 (1.1)
All people infected with HIV have AIDS	151 (88.3)	20 (11.7)
Only homosexuals and prostitutes have HIV/AIDS	171 (100)	0 (0)
People who look healthy can be infected with HIV	171 (100)	0 (0)
Even one unprotected sexual encounter can lead to an HIV infection	163 (95.3)	8 (4.7)
Appropriate and regular condom use lowers the risk of HIV infection	166 (97.1)	5 (2.9)
Contraception pills prevent HIV infection	164 (95.9)	7 (4.1)
After an accidental injury by a needle used in AIDS patient, the probability of getting HIV infection is 0,3 - 0,5%	74 (43.3)	97 (56.7)
HIV can be transmitted during routine work with patients in health care institutions	112 (65.5)	59 (34.5)

of students are classified as having good knowledge of HIV. Interestingly, female students had better knowledge ($p = 0.0073$) (Table 4a).

The overall attitude towards HIV/AIDS among students was assessed by 10 questions. The median value of the positive answers was 6 (95% CI: 6-7). The lowest score was 2 (1.2% of students), while only one student had a positive opinion on all the questions asked. Discriminating views regarding various medical procedures performed on HIV patients were frequent. More than a third of students agreed with a highly stigmatizing statement that "All patients who are assumed to be admitted to the hospital should make test for HIV" (36.3%), even in the absence of informed consent. More than one third of the students (36.3%) condemn the MSM population. The lack of respect for confidentiality was common, 81% of the students support that partners of HIV + patients, should be informed of their HIV status, even though they do not have consent. 20% of participants don't not want to deal with PLWH. In general, majority of the students (73.6%) had a positive attitude towards HIV. There was no significant correlation of the overall attitude towards HIV patients, in regards to age ($p = 0.5993$), gender ($p = 0.1160$) and residence ($p = 0.7787$) (Table 5).

There was difference in opinions depending on residence ($p = 0.001$) (Table 4b). Even though we found that positive attitude towards HIV patients was predominant among students from urban areas, there was moderately significant positive correlation between the level of HIV/AIDS knowledge and positive attitudes towards HIV/AIDS among students ($p < 0.0001$; $r = 0.34$), with no correlation between the level of knowledge and stigma towards HIV/AIDS ($p = 0.6834$).

A univariate regression analysis confirmed positive correlation between better knowledge regarding HIV and positive attitude towards this population of patients (coefficient = 0.15; standard error = 0.29; $p = 0.003$). Knowing the infection transmission and the overall attitude towards HIV were significantly related to the willingness to work with AIDS positive patients ($p = 0.0169$ and $p < 0.0001$).

The nondiscriminatory attitude of the students was evaluated by 6 questions, and the median value of the discriminating responses was 3, ranging from 1 to 6. More than half of the students (61.4%) had discriminatory attitude towards HIV. A positive correlation was found between non-discriminatory attitude and overall opinions regarding HIV ($p < 0.000$, $r = 0.45$), while gender, age, residence, HIV knowledge were not significantly correlated with discrimination towards HIV. Multivariate regression analysis showed that only positive attitude towards HIV (coefficient = 3.91; standard error =1.04; $p = 0.0002$) is an independent predictor for non-discriminatory behavior related to HIV patients (Table 4c).

Table 3. Students' expertise on the HIV/AIDS transmission.

Question	Affirmative answer N (%)
Unprotected sexual intercourse with an infected person	171 (100)
Blood (using common needles and syringes during intravenous drug transmission)	171 (100)
From infected mother to child	165 (96.5)
Mosquito bite	9 (5.3)
Consuming food in a restaurant where the chief has AIDS	6 (3.5)
Using the same shaving equipment and toothbrush	92 (53.8)

Stigma related to HIV/AIDS was recorded in 36.3% of students. Interestingly, male participants had far more stigma towards HIV positive patients (p = 0.0089). There was no significant correlation between stigma and age (p = 0.5730) or residence (p = 0.5092), while there was significant, but weak negative correlation between stigma and the overall attitude towards HIV patients (p = 0.0025; r = - 0.2297). Multivariate regression analysis identified the overall opinion (coefficient = 1.45, standard error= 0.45; p = 0.0013) and male gender (coefficient = 1.12; standard error = 0.36; p = 0.0021) as independent predictors for HIV stigmatization. Almost a fifth of students (23%) had homophobia towards HIV positive patients. Students with a fear of contracting an HIV infection, had worse attitude towards HIV, and refused to work with PLWH. A significant and high negative correlation was identified between homophobia and overall HIV-related opinions (r = - 0.5930; p <0.0001). We did not find a significant correlation between homophobia and

Table 4a. Knowledge level towards HIV in comparison to gender and residence.

FACTOR	N	KNOWLEDGE LEVEL				Median (95%CI)	p
		AVERAGE (6-8)		GOOD (9-11)			
		f	%	f	%		
Overall	171						
Gender							
Male	56	19	33.9	37	66.1	9 (9-10)	**0.0073**
Female	115	17	14.8	98	85.2	9 (9-9)	
Residence							
City	119	28	23.5	91	76.5	9 (9-9)	**0.2719**
Village	36	7	19.4	29	80.6	9 (9-9)	
Suburban area	16	1	6.3	15	93.7	9.5(9-10)	

Table 4b. Attitude towards HIV in comparison to gender and residence.

FACTOR	N	ATTITUDE				Median (95%CI)	p
		POSITIVE (6-10)		NEGATIVE (0-5)			
		f	%	f	%		
Overall						6 (6-7)	
Gender							
Male	56	36	64.3	20	35.7	6 (6-7)	**0.103**
Female	115	89	77.4	26	22.6	6 (6-7)	
Residence	Mean ± SD						
City	119	92	77.3	27	22.7	6.43 ± 1.53	**0.001**
Village	36	25	69.4	11	30.6	6.19 ± 1.65	
Suburban area	16	11	68.8	5	31.2	6.06 ± 1.39	

Table 4c. Discrimination towards HIV in comparison to gender and residence.

FACTOR	N	DISCRIMINATION				Median (95%CI)	p
		YES (0-3)		NO (4-6)			
		f	%	f	%		
Overall						3 (3-3)	
Gender	Mean ± SD						
Male	56	35	62.5	21	37.5	3.14 ± 1.19	**0.969**
Female	115	70	60.9	45	39.1	3.30 ± 1.06	
Residence							
City	119	70	58.8	49	41.2	3.31 ± 1.07	
Village	36	21	58.3	15	41.7	3.16 ± 1.20	**0.213**
Suburban area	16	13	81.3	3	18.7	3.00 ± 1.21	

gender. A significant but weak, positive correlation between homophobia and refusal to work with AIDS patients was found (p = 0.0165; r = 0.1832;) and moderately positive correlation between the overall opinion and willingness to work with HIV patient (p <0.0001; r = 0.3678). Multivariate regression analysis found that only the overall opinion is an independent predictor for students' willingness to work with AIDS patients (coefficient = 2.03, standard error = 0.52; p = 0.0001), while the level of knowledge, residence, gender and homophobia did not meet the criteria for independent predictors.

Unprotected sex was reported by 23 participants (13.5%), the male participants were significantly associated with risky behavior (p <0.001; r =0.3281;), with positive correlation between students' age and risky behavior (p = 0.0119; r = 0.192). Students who had unprotected sex were older, with mean age of 24.8 ± 2.6 years comparing to students who did not have sex at all (p = 0.0096). Multivariate regression analysis found that the male (coefficient = 1.46; standard error = 0.37; p = 0.0001) and older student age (coefficient = 0.21; standard error = 0.07; p = 0.003) were good predictors of risky behavior. There was not a significant correlation between risky behavior and other analyzed variables (overall attitude, willingness to test for HIV, expertise level and homophobia).

Discussion

The purpose of this research was to evaluate the medical students` attitude towards HIV patients and to assess their level of knowledge regarding this global health care problem. UNAIDS (United Nations Program on HIV/AIDS) and WHO claim that proper HIV knowledge is globally scarce, with a high number of infections among young people aged 24 years of age or younger [11]. Our own results are encouraging. Our study showed that medical students in Tuzla generally have a relatively high level of knowledge. Most of them answered correctly questions related to HIV, ways of transmission and prevention. A study conducted at the University of Xinjiang showed that 74.5% students answered correctly on questions relating to HIV/AIDS transmissions [4]. A study conducted in Israel showed similar results, where 80% of the students answered correctly, as well as a study in Malaysia, and a study in Croatia [10, 12, 13]. In contrary, there are some studies where students had an average understanding of HIV infection [14,15]. Interestingly, a study conducted in Malaysia showed that a large number of students weren't sure whether HIV could be transmitted by mosquitoes, 43.8% of them gave a false answer [13]. Maimati *et al.* reported that 59.5% of students thought that HIV could be transmitted by mosquitoes [4]. In the study by Chemtob *et al.*, 34% of examinees thought that mosquitoes could spread HIV, and 29% thought HIV could be transmitted by snot [16]. Moreover, 40.3%, of the students tested in China, still believe mosquitoes spread HIV [17]. Our 9 students answered that HIV can be spread through a mosquito bite. However, majority of the students involved in the study in India were aware that HIV couldn't be spread through a mosquito bite [18]. At the University in Malaysia, 50.5% of the students believe that healthy people at first glance could be infected with HIV [13]. Moreover, in our survey all students thought that people with HIV can be asymptomatic. Lönn *et al.*, reported that 95% of students knew that the most common ways of spreading HIV is sexual contact, from a mother to her child and sharing needles [19]. A similar result came out of Maimati *et al.*, where over 80% of examinees knew HIV could be spread through sharing syringes/needles, as well as vertical transmission from mother to child [4]. All of our students knew HIV spreads through unprotected sexual intercourse and sharing needles and syringes when injecting drugs, while few of them didn't

Table 5. Students' opinions towards HIV/AIDS.

Question	Positive N (%)	Negative N (%)
Would you work with an AIDS patient?	137 (80.1)	34 (19.9)
Are you willing to get tested for HIV?	151 (88.3)	20 (11.7)
Only homosexuals and prostitutes have HIV/AIDS	171 (100)	0 (0)
Do you consider that HIV positive people should get a treatment from a dentist with special equipment?	45 (26.3)	126 (73.7)
All hospital patients should be tested for HIV	109 (63.7)	62 (36.3)
Would you inform the sexual partner of an HIV positive person even though he/she disagrees with it?	33 (19.3)	138 (80.7)
Do you judge the MSM population (men who have sex with men)?	109 (63.7)	62 (36.3)
Are you homophobic towards HIV?	132 (77.2)	39 (22.8)
Would you eat in a restaurant where you knew the chef was HIV positive?	165 (96.5)	6 (3.5)
Would you use shaving equipment or a toothbrush from an HIV positive person?	79 (46.2)	92 (53.8)

know about vertical transmission. The same results were reported in Korea [20]. However, the opposite was noted in Israel, where only 36.6% of students knew breastfeeding could spread HIV [12]. A Malaysian study showed that 52.4% of their participants were well informed about HIV [13]. Maimati's research shows that 75% of participants were well informed [4]. Also, our study shows that four fifths of our students are well informed regarding HIV with one fifth having an average knowledge. A high percentage of students still believe health workers have a high risk of HIV infection. Almost 35% of students thought their future career would have a high risk of HIV exposure [12]. Our study showed a similar response. The risk perception is exaggerated because the actual risk is small when adequate measures of prevention are taken. There was no positive correlation between gender and level of expertise. In a study from Pristina, women were more informed than men [14]. Educated women have a better perception of HIV exposure, as shown in a study conducted by Nelson et al. [21]. A significant difference in level of knowledge, was found in our study, where women gave better answers than men. A study by Zefi, found that there is no worthy correlation between place of residence and level of HIV expertise [14]. Our study showed the same results. The authors in Kosovo found that less than a half of the participants (47%) knew the difference between HIV and AIDS, while a majority of our students were aware of it [22]. At the Zululand University, 95% of students agreed that using a condom will prevent HIV infection [23]. Similar results were found in other studies [10,17]. Almost all of our examinees knew that even one unprotected sexual encounter can lead to an HIV infection. To conclude, the knowledge regarding HIV prevention was satisfying. In contrary, a study in Israel showed insufficient levels of knowledge regarding HIV prevention (58% to 70%) [12]. A lack of knowledge can create a negative impact on PLWH and encourage stigmatization and discrimination [7]. In a study in Malaysia, a majority of the students showed a positive attitude towards PLWH, as shown by the results in our study [13]. A study conducted in Croatia, indicated negative attitude towards HIV patients [10]. A study done by Bamidele *et al*., conducted among students in India, South Africa and the United States of America found that negative perceptions regarding PLWH can lower people's confidence on whether to get tested that ultimately leads to a higher risk of HIV spreading [24]. To conclude, being aware of knowledge and perception regarding HIV is important in order to plan preventive strategies. Living in urban or rural areas did not seem to influence the knowledge of HIV, based on our study and several others [14,10]. In our study a significant negative correlation was found between homophobia and general attitude towards HIV. The authors in Croatia showed that better knowledge and lower homophobia rates lead to a better perception [10]. Our results showed that 20% of students don't want to work with PLWH, which is similar to the results in Israel and in Croatia [12,10]. These results are devastating because they show a presence of prejudice among medical students. A great majority of our students think that PLWH should go to a dentist with a special equipment while the Xinjiang study shows that half (51.5%) of the participants think that students with HIV should use a special school toilet [4]. Study in Sanaa showed that infected kids should be isolated even from attending school [15]. Multivariate logistic regression analysis showed that overall attitude towards HIV patients was an independent predictor of whether a student was willing to work with an AIDS patient or not. We made a conclusion that continuous education is necessary to change negative attitudes towards PLWH. However, Mitchell said that knowledge alone is not enough to change the perceptions towards PLWH, but societal and cultural factors such as religion, health outlook and risky behavior, especially sexual, can affect the perception [25]. Despite high expertise and positive attitude, over a third of our students agreed with the exceptionally stigmatizing proclamation "All patients that are admitted to the hospital should be tested for HIV", while 80% of Croatian students believed they have a right to know the HIV status of their patient [10]. In one study, about 90% of medical students said that all patients who were admitted to hospitals should be tested for HIV [26]. Our students aren't aware of the many international recommendations that emphasize the importance of informed consent for HIV testing and that testing without a consent is deemed unethical [27]. In an Israeli study, about 80% of students stated they would inform the sexual partner of the HIV positive person against the patient's wishes [12]. Our results are similar, to those of another research [26]. Opposite beliefs were found in Malaysia, where 82% of students preferred to maintain the confidentiality [13]. Our results showed a significant correlation between male gender and stigma, which is similar to a research that showed women had a less discriminatory attitude towards PLWH in comparison to men [20]. The level of fear and emotions related to HIV surprisingly weren't correlated with the level of knowledge. Just above a third of our students had non-discriminatory attitude towards HIV patients, while in a study in Croatia, only

28.3% students had non-discriminatory behavior [10]. Over a third of our students accepted men who have sexual relationships with men without prejudice, which is similar to a research conducted by Tešić *et al.* [10]. Similar discriminatory views were found in other studies [20,26]. Our research confirms that a positive attitude towards HIV is the only independent predictor to a non-discriminatory behavior. In Maimati's study, 15.8% of participants had at least one example of risky behavior including unprotected sexual exposure [4]. Our results confirmed that the male gender was significantly associated with risky behavior. Multivariate logistic regression showed that male and an older age are good predictors of risky behavior.

Our study has its limitations. It was designed as a cross section survey and as such, it does not provide any causality conclusions. It is limited by the honesty of participants while answering the questions, from the questionnaire, which was anonymous. With these limitations, we believe that our study proves that medical students have a high level of knowledge about HIV, but unfortunately, there are still intolerant attitudes and prejudices.

Conclusion

To conclude, it is very important that students understand the prevention and ways of HIV transmission. It is also very important to develop a positive attitude towards HIV patients. The results of this study showed that students with a good knowledge have a positive attitude and perception of HIV. Moreover, study also reported an existence of stigmatizing concepts and fears among medical students towards PLWH. Furthermore, most medical students expressed opinions that were contrary to current guidelines and confidentiality. The results of this study indicate the importance of creating a health education programs to help students understand HIV more effectively, focusing not only on increasing knowledge, but also on minimizing stigma, anxiety, and misconceptions regarding HIV and PLWH. Knowledge can increase awareness of HIV infection, which reduces stigma towards PLWH.

Authors' contributions

RJ, conceptualized the study; participated in its design, coordination, and questionnaire administration. RJ, HPJ, DP, DZ, JP, AC had role in drafting the work and revising it critically for important intellectual content. RJ and DZ performed statistical analysis. RJ, HPJ, DP, DZ, JP, AC drafted the manuscript and approved the final version.

Ethical considerations

The study received ethical clearance from the Ethics Review Committee for Scientific Research Work of the University of Tuzla, Protocol No.03/7-7066-2/19. Participants in this research provided informed consent before completing the questionnaires. Data were treated with a high level of confidentiality.

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Article

HIV/AIDS Knowledge of Undergraduate Students at a Historically Black College and University

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Abstract: Objective: This study among 400 undergraduate students enrolled at Jackson State University (JSU) study aimed to assess knowledge about HIV and AIDS among African-American undergraduate students attending a historically black college and university. A cross-sectional survey was conducted. Data were collected using a validated, self-administered, and standardized questionnaire on knowledge regarding risks for HIV and AIDS. Three hundred and eighty-six students (96.5%) had good knowledge about HIV and AIDS, although some participants had misconceptions about the modes of HIV infection transmission. There were no significant gender differences for HIV and AIDS knowledge among the participants ($\chi^2 = 3.05$; $P = 0.08$). In general we concluded that JSU undergraduate students had adequate knowledge about HIV transmission modes and AIDS, although some participants had misconceptions about the routes of HIV infection transmission. Hence, this study calls for strengthening HIV and AIDS awareness education among undergraduate students.

Keywords: HIV; AIDS; students; African Americans; HBCU; Mississippi

1. Introduction

HIV continues to be a major public health concern that has claimed more than 34 million lives globally. It is estimated that, in 2016, 1.0 million people died from HIV-related causes globally. In 2016, 36.7 million people were living with HIV, and additional 1.8 million people were infected with the virus [1,2]. In 2015 the US Centers for Disease Control and Prevention (CDC) estimated that 1.2 million people in the US were infected with HIV, and that, globally, one in seven were unaware that they were infected with HIV [3]. The same year, 39,513 people were diagnosed with HIV infection among gay and bisexual men, the population most affected by HIV/AIDS. Gay and bisexual African-American men accounted for the largest proportion of HIV diagnoses in 2015 [3]. Despite representing only 12% of US population, African Americans accounted for 45% (17,670) of HIV diagnoses in 2015. Additionally, in the same year, African Americans had the highest rate of HIV diagnoses compared to other races and ethnicities in the United States [3].

Globally, the sex differences in the incidence of new HIV infections are most pronounced in the younger ages [1]. In 2016, new infections in young women (aged 15–24 years) were 44% higher than in men for the same age group [1]. In the United States, most new HIV infections occur among men who have sex with men (MSM) of all races and ethnicities, followed by African-American heterosexual women [4]. In United States, the CDC estimated that about 22% of all new HIV infections in 2015 were

among youth aged 13 to 24 years [4]. Among the youth in the same age group, about four in five of new HIV infections occurred in males, and African Americans accounted for 60% of new infections among youth. Among young gay and bisexual males, African Americans account for over half (54%) of new HIV infections [5]. The CDC also estimates that the majority (87%) of HIV positive young males became infected from contact with MSM, 6% from heterosexual sex, 2% from injection drug use and about 5% from dual exposure to MSM and injection drug use [5]. Among young females, about 86% of HIV infections are associated with heterosexual sex and 13% from injection drug use. New incidence of HIV infections was higher among African American males than in any other group of youth by race/ethnicity and sex [5].

Although sexually transmitted diseases (STDs) affect all ages and races, STDs have taken the greatest toll among young people in the United States [6]. The CDC estimates that although youth ages 15–24 constitute just over one fouth of the sexually-active population, they account for over nine million new sexually transmitted infections that occur in the United States each year [6,7]. Many young people in the US are unaware of their HIV infection status; the CDC estimates that 44% of young people aged 13–24 who were living with HIV do not know their status, which represents the highest rate of undiagnosed HIV in any age group in the United States [8].

Youth often must struggle with their social autonomies, peer pressures and their lack of effective maturity to make positive sexual decisions, which often leads to having negative attitudes and behaviors that contribute to their high vulnerability to HIV infections [9,10]. HIV and AIDS are not simply a public health challenge, but constitute a societal menace with a devastating impact among young people. CDC points out that an average youth feels invincible and has little fear of becoming infected by HIV. In addition, many youths believe that HIV only affects older age groups in the society [6].

Undergraduate university students as a group are constantly exposed to sexual risk behaviors, whether it is during the transition period from high school to university as freshmen, or as returning students in college [11]. Repeated exposures to sexual risk behaviors also make students more vulnerable to HIV infection. Undergraduate students are very mobile group, and if not protected and preserved from the scourge of HIV and AIDS, they can become dispersal agents for the spread of HIV in society [12]. They may also be at higher risk of engaging in risky sexual behavior, especially if they are under the influence of alcohol or drugs, misconception of the knowledge and severity of HIV and AIDS or lack the necessary maturity in handling negative peer pressure [6]. Against this backdrop, it becomes critical that effective HIV and AIDS intervention strategies among undergraduate university students are implemented and effectively promoted and evaluated.

Research has also shown that increased knowledge about HIV and AIDS may not necessarily lead to positive behavior change, yet knowledge about a disease may be an initial step towards behavioral risk change [12–14]. In preparing our young people for adult life ahead of them, education remains an excellent tool for transmitting knowledge about HIV and AIDS prevention. A study conducted by Chaves and colleagues found that providing well-planned education about HIV and sexuality increases knowledge, develops better skills, and raises positive attitudes that can reduce risk behaviors among young people [9]. Knowledge about HIV and AIDS can serve as a tool and guide on policy formulation and the necessary intervention in a fight to reduce the prevalence of HIV and other STDs in our schools [12].

Because young people are a valuable resource of society, it is imperative that they are armed with the HIV and AIDS information to protect themselves from falling prey to this infectious disease. In the absence of an effective cure for this disease, assessing the level of knowledge of HIV and AIDS among university undergraduate students will provide vital information on the students' knowledge and possible misconceptions of the disease. Thus, we assessed knowledge about HIV and AIDS among undergraduate students at a historically black college and university.

2. Materials and Methods

2.1. Study Area and Design

We conducted a cross-sectional study study to assess knowledge about HIV and AIDS among African American undergraduate students attending a historically black college and university. The survey was conducted from 10 June 2016 to 30 September 2016. Participants were selected through convenience sampling among undergraduate students of Jackson State University (JSU). JSU is in the city of Jackson and has a population of about 9000 undergraduate students. JSU is the fourth largest institution of higher learning in Mississippi and fourth largest of the Historically Black Colleges and Universities (HBCU) in the US [15]. Jackson is also the state capital of Mississippi.

2.2. Study Population and Sampling Procedure

The inclusion criteria for the participants included African-American freshman, sophomore, junior or senior undergraduate students of JSU; who were at least 18 years of age; and consented to participate in the research. A minimum sample size of 369 was calculated using the formulas of Michel [16] and Talbot [17]. The sample size was increased to 400 students to allow for non-response. Students were selected through convenience sampling of freshman, sophomore, junior and senior JSU undergraduate students. Perspective participants were informed about the purpose of study and were encouraged to participate in the study after obtaining the permission and approval of their lecturers before their class sessions. Participants were counseled that this study was completely voluntary, that they could refuse to answer any specific question, and that they may withdraw from the study at any time without penalty or prejudice and were given informed consent letters to read and sign prior the distribution the study questionnaires. Questionnaires were distributed to consenting students at the end of their scheduled class session with cooperation and approval of the lecturer in charge. The study participants were required to complete the questionnaires in the classroom. Study participants took an average of ten minutes to complete the questionnaire. The completed questionnaires were retrieved from each participant before leaving the classroom.

2.3. Data Collection Instrument

The HIV and AIDS Knowledge Questionnaire used for this study was adapted and modified for this study from a widely used World Health Organization questionnaire [18] and included additional items that were identified from a literature review of related studies. The self-administered study questionnaire was composed of two parts which addressed: (1) the student's demographic background, and (2) the student's knowledge regarding HIV/AIDS. We applied Cronbach's alpha coefficient ranges from 0–1, with values closer to 1.0 indicating higher internal consistency [16,17]. To validate the study questionnaire, we pretested the draft questionnaire with a group of Jackson State University undergraduate students who were not included in the final study. The final questionnaire validation test showed that the Cronbach's alpha was 0.78 for knowledge.

Knowledge was assessed using items in the questionnaire including: (1) basic knowledge of HIV transmission, (2) predisposing risk behavior and practices for acquiring HIV, (3) symptoms of HIV and AIDS, (4) treatment modalities for HIV and AIDS, (5) methods for preventing infection, and (6) the impact of other STDs on acquisition and spread of HIV infection.

2.4. Scoring

Each correct response was given a score of 1, and a wrong or unsure response was scored 0. Total knowledge scores ranged between 0–21. Knowledge scores from 0 to 10 were considered poor knowledge, while scores more than ten were considered as having "good knowledge" regarding HIV and AIDS.

2.5. Data Analysis

Analyses were conducted using SAS® 9.3 statistical software (SAS Institute Inc., 2012). Descriptive statistics gave a comprehensive picture of background variables including age, sex and other dependent and independent variables in the questionnaire. The frequency distribution of both dependent and independent variables was determined. A significance level of $\alpha = 0.05$ was used for analysis. The Chi-square test was applied for determining an association between knowledge and gender.

2.6. Ethical Approvals

Ethical clearance for the study was obtained from the Jackson State University Institutional Review Board. Prior to data collection, all study participants were informed about study and were assured that all data were confidential and will only be analyzed as aggregates. Written informed consent was obtained from each participant prior to enrollment.

3. Results

3.1. Students' Profile

Four hundred undergraduate students agreed to participate in the study and completed the questionnaire. The mean age of the 400 respondents was 21.9 years, standard deviation ±5.7 years with ages ranging from 17 to 57 years (Table 1). A total of 141 (35.2%) were male undergraduate students, and 259 (64.8%) were female. All respondents were African American. A total of 88.25% of respondents were Christian and 11.75% indicated no religion.

Table 1. Demographic characteristics of the 400 undergraduate students enrolled in the study.

Characteristics	*n* (%) or Mean ± S.D.
Age	21.9 ± 5.7
Gender:	
Male	141 (35.2)
Female	259 (64.8)
Religion:	
Christian	353 (88.25)
Non-Christian	47 (12.75)

n = Number of students in each group; S.D. = Standard Deviation; % = Percentage.

3.2. Knowledge about HIV/AIDS

The data analysis revealed that most respondents (97%) had "good knowledge" about how HIV is transmitted (Table 2). They were aware that HIV is transmitted through sexual intercourse and sharing of injection equipment and that the infection and the disease it causes has become a global pandemic. The respondents were also aware that disease affects the immune system making them susceptible to opportunistic infections and to developing cancers.

Table 2. Knowledge about HIV and AIDS among 400 undergraduate students enrolled in the study.

Variables	Appropriate Responses	*n* (%)
HIV is a type of virus	True	339 (84.8)
AIDS is a curable disease	False	324 (81)
HIV/AIDS affects the immune system	True	373 (93.3)
HIV and AIDS have the same clinical manifestations	False	141 (35.3)
Opportunistic infections are common among AIDS patients	True	158 (39.5)
HIV is already a pandemic disease	True	350 (87.5)

Table 2. *Cont.*

Variables	Appropriate Responses	*n* (%)
People can get HIV from:		
Sexual intercourse without a condom	True	389 (97.3)
Infected mother-to-child transmission	True	377 (94.3)
Receiving infected blood	True	369 (92.3)
Sharing infected needles and sharps, e.g., razor blades, nail cutters, lancet, syringes	True	389 (97.3)
Through infected semen	True	389 (97.2)
HIV infection can be prevented through:		
Consistent use of condoms can prevent HIV Infection	True	285 (71.3)
Sexual abstinence	True	349 (87.3)
HIV misconceptions:		
HIV is transmitted through insect bites	False	182 (45.5)
HIV is transmitted through sharing clothes	False	320 (80)
HIV is transmitted through using public toilet	False	313 (78.3)
Diagnose HIV by looking at facial expression	False	377 (94.3)
HIV does not affect young people	False	383 (95.8)
HIV infection risk:		
Multiple sex partners increase HIV infection risk	True	380 (95)
Untreated STD increases HIV infection risk	True	299 (74.8)
Avoiding alcohol and drug abuse reduce HIV risk	True	193 (48.3)

STD = Sexual transmitted disease; HIV = Human immunodeficiency virus; AIDS = acquired immune deficiency syndrome; *n* = Number of students; % = Percentage.

More than 97% of the respondents knew that HIV could be transmitted via sharing unsterilized needles and sharps, unprotected sexual intercourse, and through infected semen. More than 90% of the respondents knew that HIV could be transmitted by receiving infected blood, as well as vertical transmission from infected mother to child. Only 71% of respondents thought that consistent use of a condom could prevent HIV transmission during sexual intercourse. However, 87% of the students were aware that HIV infection could be prevented through sexual abstinence, and about 85% of students knew that HIV is a type of virus. On the question of whether HIV and AIDS affect the immune system of infected individuals, about 93% gave an appropriate response; and 88% knew that HIV is already a pandemic disease (12% did not know). On the question whether HIV and AIDS have the same clinical manifestations, about 35% gave an appropriate response. About 74% of the students correctly believed that untreated sexually transmitted diseases increase HIV infection risk, 95% knew that having multiple sex partners can increase the chance of acquiring HIV infection, but only 48% believed that avoiding alcohol and drug abuse reduces the risk of HIV infection.

There were some misconceptions relating to HIV and AIDS, with 55% of respondents believing that HIV could spread through insects or mosquito bites, and about 6% believied that HIV-positive people could be recognized by their facial appearance. Twenty percent or respondents believed that HIV could spread from sharing a bathroom and clothes, and about 22% of the students believed that HIV could spread by sharing public toilet with an infected person. Four percent of the respondents believed that HIV did not affect young people, and 19% believed that there was a cure for AIDS.

The overall mean knowledge score for the 400 respondents in this study was 16.72 ± 2.83, and their knowledge scores ranged from 0 to 21. When the sample was stratified into poor knowledge (scores of 0–10) and good knowledge (scores of 11–21), about 94% of male and 98% of the female students had good knowledge about most items about HIV and AIDS in this study (Table 3). The result from Table 3 also reveals that there was no significant difference between the knowledge of the male and female undergraduate students over HIV and AIDS in this study (χ^2 =3.05; P = 0.08).

Table 3. Differences in distribution of knowledge about HIV and AIDS for all respondents by sex.

Variables	Knowledge			
	Good Knowledge *n* (%)	Poor Knowledge *n* (%)	χ^2	P
Sex				
Male	133 (94.3)	8 (5.7)	3.05	0.08
Female	253 (97.7)	6 (2.3)		

n = Number of students in each group; χ^2 = Chi-square; % = Percentage.

4. Discussion

4.1. Knowledge about HIV and AIDS

The undergraduate students in this study had a relatively high level of knowledge about HIV/AIDS infection with 96.5% of the respondents having total scores above 10. This finding resembles that observed in a study conducted by Maimaiti and colleagues (2010) on the knowledge, attitude, and practice regarding HIV and AIDS among University Students in Xinjiang, China, which found that 74.5% of their respondents had a similar level of knowledge [19].

Our study showed that more than 97% of the respondents knew that HIV could be transmitted via unprotected sexual intercourse, sharing unsterilized needles and sharps, as well as transmission via infected semen. Lönn and colleagues (2007) conducted a similar study among medical students in the Xinjiang Medical University in 2006, which found that majority of the students knew the common routes of HIV transmission are: unprotected sexual contact, mother-to-child transmission, and sharing unsterilized needles [20]. However, Lönn et al. determined, from in-depth interviews of 20 students, that their students' knowledge of HIV and AIDS transmission modes was superficial, which underscores the need for more and better structured HIV and AIDS awareness programs for prevention of HIV in young adults [20].

Our study results revealed that that some students lacked knowledge about HIV and AIDS in certain key areas. For example, 12.7% of the students in our study did not recognize sexual abstinence as means of HIV and AIDS prevention, and about 19% of our participants considered AIDS as a curable disease. Other misconceptions about HIV transmission risks detected in our study included the sharing of clothes with HIV and AIDS patients (20%), using a public toilet (21.7%) and insect bites (54.5%). Other studies have detected similar misconceptions about HIV infection transmission routes [19,21–23].

While it is encouraging to note that most participants in our study showed relatively high levels of knowledge about HIV and AIDS infection, it is disturbing that 4.2% of respondents still believed that HIV does not affect young people, and that 5.7% believed that they could identify an individual with HIV infection by looking at the person's facial expression. A similar study done by Fennie and colleagues [11] indicated that many adolescents tend not to perceive themselves to be at risk for HIV or other sexual transmitted disease. Fennie and colleagues also found that some adolescents with good knowledge of HIV and AIDS risk do not see the need for safe sex as serious, and they often downplay the risk of HIV infection [11]. In our study, some students were unaware that individuals having other sexual transmitted diseases have a higher risk of acquiring HIV compared to individuals without STDs. This study finding is also consistent with similar findings noted in other studies [19,21–23]. Importantly, we noted that there was no significant difference in HIV and AIDS knowledge between male and female students in our study.

Our research and that of others has shown that increased knowledge about HIV and AIDS may not predict behavioral change in all undergraduate students [12–14,24], however knowledge about the disease is a prerequisite for the behavioral changes that will protect most students from HIV infection [12,25].

4.2. Strength and Limitations of the Study

This study was conducted among undergraduate students from a single college; the findings would have been more generalizable if the students' knowledge about HIV and AIDS status was evaluated at more than one historically black college and university. The study was also limited by the study design, which made it difficult to differentiate cause and effect from simple association. However, the strength of this study was the nearly 100 percent response rate of from study participants, allowing reliable estimation of the level knowledge of HIV and AIDS knowledge among the University students.

5. Conclusions

This study found that a sample of 386 undergraduate students from a historically black College (representing 96.5% of eligible students) possessed high levels of knowledge about risks of HIV and AIDS. Student misconceptions about HIV/AIDS noted in the study included the beliefs that sharing of clothes with HIV and AIDS patients (20%), using a public toilet (21.7%) and insect bites (54.5%) would transmit HIV. These are rare but important misconceptions underscore the need for continuing education interventions to keep young adults informed about HIV and AIDS. This study also points out the need for additional studies to evaluate undergraduate students' HIV infection risk behaviors and attitudes towards people living with HIV and AIDS. It also points to the imperative for colleges in the United States and other countries to offer health education programs related to HIV and AIDS transmission and prevention for their students. This can help to improve and correct some of the important misconceptions regarding HIV and AIDS.

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HIV/AIDS and Its Prevention: A Cross-sectional Study to Evaluate Knowledge, Awareness, and Attitude among Medical Students

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ABSTRACT

Background and Objective: *HIV and AIDS is a major global health problem. The lack of knowledge and misconceptions about its modes of transmission among the public, medical students, and healthcare professionals is accountable for the rapid spread of HIV, social stigmatization and discrimination of HIV infected patients. This study aimed to evaluate the knowledge and awareness about HIV and AIDS and also to know the attitude of medical students towards HIV and AIDS patients.* ***Materials and methods:*** *A total of 117 medical students of the 5th year participated voluntarily in this descriptive cross-sectional study. The data was collected in a pretested questionnaire, tabulated and analyzed in Microsoft Excel and SPSS software version 22. The quantitative data were expressed in terms of numbers and percentages.* ***Results:*** *The knowledge among students about HIV is satisfactory. All students (100%) were aware of HIV and AIDS, and its causative agent. The majority of students were aware of modes of transmission, diagnostic tests, and major preventive measures. HOwever, only a few students were aware of the availability of anti-retroviral drugs for treating HIV, few had an erroneous belief that HIV is curable and vaccine-preventable. The study also observed misconceptions among students (12-40%) about spreading of HIV such as by mosquito bite, handshaking, sharing toilets, utensils, and food.* ***Conclusion:*** *From the results of our study, it is suggested that there is a need for an implementation of HIV and AIDS training programs at regular intervals to medical students at the beginning of their inception into a medical course. This would reduce the knowledge, attitude, and practice gap among medical students.*

Keywords: AIDS, Antiretroviral drugs, HIV, Needle stick injury, Sexually transmitted infection

INTRODUCTION

Human immunodeficiency virus (HIV) and Acquired immunodeficiency syndrome (AIDS) is one of the major global health problems associated with high morbidity and mortality [1,2]. It is the leading cause of death in Africa and the fourth leading cause of mortality in the world [3,4]. Acquired immunodeficiency syndrome (AIDS) is a fatal condition resulting from an infection with a retrovirus called as Human immunodeficiency virus (HIV), which breaks down host's immune system and makes the person susceptible for various opportunistic infections, neurological disorders, and unusual malignancies such as Kaposi's sarcoma [5,6]. The first case of AIDS was reported in 1981 in the USA and within a few decades of its documentation, it has spread rapidly across the world [7]. No country in the world including Middle Eastern countries is spared from HIV infection [8].

HIV and AIDS are one of the occupational health hazards and the risk of transmission among healthcare professionals including medical students is high [9-12]. The human immunodeficiency virus is present in various body fluids of the infected person such as blood, semen, vaginal fluid, saliva, breast milk, and others [7,13,14]. Blood transfusion, organ transplantation, use of contaminated needles and syringes, unsafe sexual practices, vertical transmission from mother to baby, and through breast milk are the major modes of transmission of HIV infection [3,8,14]. Studies have also shown that there are misconceptions among the medical students and general public that sharing eating utensils, meal, room, handshaking, kissing, and speaking with infected persons can lead to HIV transmission [3,14,15]. The lack of knowledge and misconceptions contribute to the rapid spread of HIV and social stigmatization and discrimination of HIV infected individuals [3,9].

People of all age groups and gender are susceptible to HIV infection but the prevalence is high among adults because

of their risk-taking behavior such as unsafe sexual practices, sharing of needles and syringes with friends, etc. and negligence towards preventive measures [3,8,15].

In spite of rapid advances in diagnosis and management, the complete cure and vaccine for the prevention of HIV are still unavailable. Hence preventive measures are highly significant for successful controlling of infection [8]. One must be aware that HIV can be prevented by modifying risky sexual behavior, avoiding sharing needles and razors among friends, use of sterile needles and syringes, strict screening of blood donors, and by the use of personal protective equipment by medical professionals [14]. Apart from this, health workers must notify the accidental needle stick injuries and receive post-exposure prophylaxis if necessary. Also, one should be aware of that early diagnosis and early initiation of antiretroviral therapy (HAART) has proven to be effective in prolonging the course of HIV infection and development of AIDS [16].

Health professionals including medical students play a major role in the prevention and control of HIV and AIDS. Therefore instilling the proper knowledge about HIV transmission, prevention, and the right attitude towards HIV patients among medical students is imperative [17]. Many studies conducted in different countries reflected the varied general knowledge about HIV and AIDS among medical and other college students [18-20]. Thus it is important to insight into medical students' knowledge, attitude, and practices towards HIV and AIDS prevention and that would help in developing proper training programs to educate them to have a complete knowledge [21]. Many studies have shown that early educational interventions can have a significant impact on reducing the knowledge, attitude, and practice gap among medical students and other medical professionals [3,22,23]. Hence this study was intended to assess the medical students' knowledge about awareness, transmission and prevention and also their attitude towards HIV and AIDS patients.

MATERIALS AND METHODS

It is a descriptive cross-sectional study conducted at the College of Medicine and Health Sciences (CMHS), National University of Science and Technology (NUST) and the study group included all the 5th year medical students enrolled in the academic year 2018-2019 (sample size is 130 students). The study was approved by the Institutional Research and Ethical Committee (CMHS/REC/002/18/C) and the study was conducted after obtaining prior informed consent from the students.

A pre-designed well-structured questionnaire was the data collection tool and was developed and modified after a thorough scientific literature review [3,6,14,15,17]. The questionnaire was validated for its contents and relevance by microbiology and medicine subject experts. The final questionnaire includes items to assess the various aspects of the participants' knowledge, awareness, and attitude towards HIV and AIDS prevention. The study group was approached for voluntary participation through personal communication. Students were explained about the objectives of the study and the need for their participation. A pre-designed self-administered questionnaire was distributed to all the voluntary participants in the classroom on a pre-notified date and time. The filled-in questionnaire was collected; the data were entered in Microsoft Excel and analyzed using descriptive statistics of SPSS (statistical package for the social sciences) version 22. IBM Chicago. The data were expressed in terms of numbers and percentages.

RESULTS

A total of 117 students of the 5th year completed the survey. The survey revealed that all the students (100%) had heard about HIV and AIDS and its causative agent. The majority of students (82.91%) knew that it suppresses the host's immunity and it can be diagnosed by blood tests (88.89%). Among the participants, 24.79% believed that HIV is a curable condition, 16.24% of the students indicated that it can be prevented by vaccination, while only 35.04% of them were aware of the availability of antiretroviral therapy for HIV treatment (Table 1).

Table 1 Awareness about HIV and AIDS

Awareness	Number of Students with "Yes" Responses (n)
Have you heard of HIV and AIDS?	117 (100.00%)
HIV is caused by a Virus	117 (100.00%)
HIV attacks and destroys the immune system	97 (82.91%)
HIV is curable Disease	29 (24.79%)
HIV can be prevented by the vaccine	19 (16.24%)

Drugs for treating HIV and AIDS are available	42 (35.04%)
HIV can be diagnosed rapidly by blood tests	104 (88.89%)

The students' knowledge about different modes of transmission is fairly good ranging between 83%-98%. However, only 54.7% indicated that HIV is transmitted from the mother to the baby through breast milk (Table 2).

Table 2 Knowledge about modes of HIV transmission

Modes of Transmission	Number of Correct Responses
Transfusion of unscreened blood and blood products	109 (93.16%)
Use of contaminated needles and syringes	104 (88.89%)
Sexual intercourse with an HIV infected person	114 (97.43%)
Sharing of needles/intravenous drug users	101 (86.32%)
Mother to the baby through breast milk	64 (54.70%)
Mother to the baby through the placenta	98 (83.76%)

Table 3 depicts the participants' misconceptions about HIV transmission. A small percentage of students had a misbelief that HIV is transmitted by hugging and handshaking (12.82%), sharing toilets and bathrooms (28.21%), sharing glass and utensils (14.52%), and through the bite of blood-sucking insects (39.32%).

Table 3 Misconception about modes of transmission

Modes of Transmission	Number of Students Responded "Yes"
Hugging and handshaking with an HIV infected person	15 (12.82%)
Sharing toilets and bathroom with an HIV infected person	33 (28.21%)
HIV spreads by the bite of blood-sucking insects	46 (39.32%)
Sharing glass and utensils with an infected person	17 (14.52%)

Table 4 shows students' responses to the questions related to the prevention of HIV. The majority of the students opined that avoiding multiple sexual partners (100%), safe blood transfusion (93.16%), use of condoms (77.78%), and avoiding sharing needles and syringes (74.36%) are important measures for halting HIV transmission. Approximately 70% of the students stated that healthcare professionals should treat all patients as potentially infectious of HIV and HBV. However, only 47.86% of the students had correct knowledge about immediate measures to be taken for accidental needle sticks injuries that would occur during patient care.

Table 4 Awareness about HIV prevention

Awareness about Prevention	Number of Students Responded with "Yes"
Avoiding sex with multiple partners	117 (100%)
Screening and safe transfusion of blood and blood products	109 (93.16%)
Use of condoms	91 (77.78%)
Avoiding sharing of needles with intravenous drug users	87 (74.36%)
Health professionals should treat all the patients as if potentially infectious of HIV and HBV	83 (70.94%)
Immediate measure one should take following accidental needle stick injury includes	
Wash with soap and Water	12 (10.26%)
Inform the infection control head	39 (33.33%)
take post-exposure prophylaxis	10 (8.55%)
All of the above	56 (47.86%)

The study also measured students' attitudes towards HIV and AIDS patients (Table 5). The majority of the students indicated that they have a willingness (69.23%) to treat HIV patients and 88.03% believe that it is an ethical responsibility of every healthcare worker. While 55.56% of the respondents opined that the fear about HIV transmission is a hindrance for providing proper health care to HIV patients. With regards to attitudes, 43.59% of respondents opined HIV patients should be treated in isolated wards, 28.21% said that they will end the relationship with HIV infected person, and approximately 38% of the students indicated that they were afraid of buying or sharing food items with HIV infected persons.

Table 5 Attitude of the students towards HIV and AIDS patient

Questions related to attitude towards HIV	Yes	No
Will you treat a patient who is HIV positive?	81 (69.23%)	36 (30.77%)
Do you think treating an HIV positive patient is a doctor's ethical responsibility?	103 (88.03%)	10 (11.97%)
Do you think the fear of HIV transmission from the patients in a hindrance in providing medical care by the health care workers to HIV patients?	65 (55.56%)	47 (40.17%)
HIV infected person should be isolated and treated	51 (43.59%)	66 (56.41%)
If I know that my friend has HIV infection, I will end the relationship	33 (28.21%)	84 (71.79%)
Would you mind buying food items from a food seller who has been diagnosed with HIV?	73 (62.39%)	44 (37.61%)
Would you mind sharing a meal with your close friend or family member who has been diagnosed with HIV?	72 (61.54%)	45 (38.46%)

DISCUSSION

The HIV infected people face severe discrimination from the community as well as from the healthcare professionals. Inadequate knowledge about HIV transmission and fear of getting infected from HIV positive individuals is bestowed for this indifference attitude of the people and healthcare workers towards HIV and AIDS patients. This would lead to the deprivation of HIV infected persons from proper medical care by healthcare workers. Inculcating proper knowledge about HIV and AIDS in medical students and other healthcare professionals is a critical component for reducing a gap of HIV related knowledge, attitude, and practice [24]. Several studies conducted globally have shown that medical education plays a pivotal role in improving knowledge and changing the attitude of healthcare workers and medical students towards HIV and AIDS patients. The present study evaluated the fifth-year medical students' knowledge and attitude towards HIV and AIDS patients.

In the present study, it was observed that all students had heard about HIV and AIDS and its causative agent and the majority of them knew that it attacks and destroys the immune system. However, their awareness with respect to transmission, treatment, and prevention of HIV is inadequate. These results were in line with the observations made by Parcaoglu, et al., [7]

It was encouraging to observe that the majority of the students knew about the availability of blood test for rapid diagnosis of HIV (88.89%). This finding is slightly lower than the similar observations made by Parcaoglu, et al., on medical students (97.06%) [7]. The data of our results pertaining to treatment and prevention of HIV shows lacunae in students' knowledge as only a few students were aware of the availability of drugs for HIV treatment (35.04%) and few had a misapprehension that HIV is curable (24.79%) and vaccine-preventable (16.24%) condition. HIV is neither curable nor vaccine-preventable and hence the best way is its prevention which can be achieved through health education. Similar observations were reported by several studies conducted across the world [25-27].

The knowledge about transmission of HIV infection through sexual contact, by blood or its products, and by contaminated needle and syringes was fairly high (83-98%) in our study participants. However, only 54.70% of them were aware of its transmission to infants through breast milk. A similarly high percentage of results about the knowledge of HIV transmission among the participants was reported by many other similar studies [15,19,25,26]. It was observed that few students had a misconception about the modes of transmission by insect bites (39.32%), sharing toilets (28.21%), sharing glass and utensils (14.52%), and hugging and handshaking (12.82%). Many other studies have revealed similar misconceptions about modes of transmission among the participants [3,14-15]. These misconceptions may hinder their efficiencies in providing health care services to affected individuals in the community. Hence these misconceptions need to be alleviated during their medical teaching and training programs.

It was good to observe that the majority of our participants were aware that strict screening of blood donors, use of sterile needles and syringes, avoiding sex with multiple partners, and use of condoms are important preventive measures. These findings are in conformity with the observations made by Shankar, et al., and Kumar, et al., [15,19]. Centers for disease control (CDC) and prevention recommends that all healthcare workers should strictly adhere to universal precautions and treat all patients considering them as potentially infectious of HIV and HBV regardless of their HIV and HBV status [28]. This might be due to the fact that not all patients know about their HIV status and some patients hide the information from healthcare professionals. Therefore it is extremely important to follow universal precautions routinely to avoid transmission from patient to health workers and also from one patient to

another patient. Approximately 71% of our participants knew this fact and these results were consistent with a study conducted by Sukhvinder, et al., [11].

In the present study, nearly 50% of the students lack adequate knowledge regarding immediate measures to be taken in case of needle sticks injuries. The immediate measure of accidental needle stick injury involves taking first aid in the form of washing the wound thoroughly with soap and water. Further, empiric prophylactic antiretroviral therapy is indicated if the risk of HIV in a patient is high and no laboratory facilities available to obtain rapid HIV test results [11,29].

In our study, the majority (88.03%) of the respondents indicated that it is a moral responsibility of all healthcare professionals to treat HIV and AIDS patients. However, only 69.23% of participants stated that they have their willingness to treat patients living with HIV and AIDS. These results were consistent with similar studies conducted by Fotedar, et al., and Seacat, et al., [1,30].

An unethical behavior or indifference attitude of the healthcare workers towards people living with HIV and AIDS has been documented by several studies and this would interfere with effective prevention and management of HIV and AIDS [14]. The fear of treating HIV infected patients is most likely due to inadequate knowledge of HIV transmission among healthcare workers. In our study, almost 50% of the participants believe that the risk of HIV transmission from infected patients is a hindrance to providing proper healthcare to HIV and AIDS patients. Nearly 40% of the respondents indicated that HIV patients should be treated in an isolated room. These findings were consistent with the results of a study by McCarthy, et al., but were comparatively higher compared to the reports of Crossley, et al., [31,32]. According to current guidelines, healthcare professionals must not refuse to treat a patient solely on the facts of HIV [10].

Our study results revealed a negative attitude among one-third of the respondents towards HIV and AIDS patients. The participants responded that they would not share a room, not use any items of an infected person, and not share a meal with an HIV infected person. This is due to a misconception about modes of transmission and could lead to stigmatization and discrimination of HIV positive individuals in society. Therefore it should be emphasized in medical training programs and seminars that HIV is not transmitted by having a social relationship with people living with HIV and AIDS [7].

The results of the present study cannot be generalized since the study sample size was small involving only 5th-year students of CMHS. The study results could have been more meaningful if the study was conducted with a larger sample size by including all the students of CMHS and possibly students of other medical colleges in Oman.

CONCLUSION

This study was undertaken to assess the knowledge and attitude towards HIV and AIDS patients among the undergraduate medical students of basic medical sciences, who have not yet exposed to the patients. The results of this study revealed that medical students have a knowledge deficit concerning some crucial aspects of control and prevention of HIV and AIDS. Therefore, it is suggested that there is a need for the development and implementation of proper training programs in HIV and AIDS at the beginning of their inception into a medical course. The dissemination of accurate knowledge among healthcare workers and medical students contribute immensely to spread awareness among the public and also to change their attitudes towards patients living with HIV and AIDS.

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ORIGINAL ARTICLES 231

Knowledge, attitude and practice of medical students towards HIV patients in their pre-clinical and post-clinical years in Karachi, Pakistan: a dual-center cross-sectional study

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SUMMARY

The human immunodeficiency virus (HIV) is currently a global threat with an estimated 38.6 million people affected with HIV worldwide. According to the Joint United Nations Program on HIV/AIDS (UNAIDS), since 2004 the total number of cases of HIV in Pakistan has risen from 2700 to 130,000. In light of the rising burden of HIV/AIDS across the country, it is essential that medical students possess appropriate knowledge regarding the subject. Therefore, we aimed to assess the knowledge, attitude and practice of medical students towards HIV patients in their pre-clinical and post-clinical years in Karachi, Pakistan. A cross-sectional study was conducted among 518 pre-clinical (year 1 and 2) and post-clinical (year 3, 4, and 5) medical students from two medical schools in Karachi during the months of October - December 2019. Similar numbers of participants were taken from each year. Data were analyzed using SPSS. Descriptive statistics were used to report frequencies and proportions for categorical responses. Chi-square and Kruskal-Wallis tests were used as the primary statistical tests. About 55% of participants were female, and most belonged to the Islamic faith. More than half of the participants learned about HIV from books (315/518), followed by medical personnel (287/518). A quarter (134/518) of the participants believed HIV could be transmitted by sharing saliva, more than half of whom consisted of pre-clinical year students. Over half the participants (60.4%) knew that there was a difference between HIV and AIDs, most of whom belonged to the 5th year group. When detecting HIV, only about 30% of participants knew about indirect fluorescent antibody. Regarding attitudes, one-third would not be friends with a person diagnosed with HIV/AIDS. As a medical officer, a large majority (76.6%; n=397/518) of the participants would be anxious or somewhat anxious. Two-thirds believed that treating an HIV patient can make them contract HIV, and a majority of participants (333/518) did not feel adequately prepared to deal with the psycho-social problems of an HIV/AIDS patient. Finally, regarding practice, only one-third of the participants were willing to treat an HIV/AIDS patient, most of whom belonged to the pre-clinical 2nd year group and fewer to the post-clinical 3rd year group. Knowledge amongst medical students regarding HIV/AIDS was generally high, although there are some knowledge inadequacies which require more emphasis in the medical school curriculum. However, contrasting with the level of knowledge, in terms of attitude the majority were anxious or somewhat anxious when treating an HIV patient, and only one-third were willing to treat a patient with HIV.

Keywords: Human immunodeficiency virus, acquired immunodeficiency syndrome, HIV/AIDS, infectious diseases, medical students.

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INTRODUCTION

The human immunodeficiency virus (HIV)/Acquired Immunodeficiency Syndrome (AIDS) is an extremely pressing and complex public health issue in our current medical landscape across the world. There have been multiple epidemics in the past which have caused devastation and fear among communities throughout the world, since it was first recognized as a disease in 1981 [1].

The worldwide impact of HIV is statistically massive. To date, 75 million people have been recorded to be infected with HIV and about 32 million have died from the disease. Globally, approximately 37.9 million people were living with HIV at the end of 2018. Around 0.8% of adults aged between 15 to 49 years old worldwide are living with HIV, but the distribution varies considerably between countries and regions [2].

Our country, Pakistan, has faced a recent epidemic in Larkana District in Sindh. Through April and June 2019, 30,192 people were screened for HIV. There were 876 new cases, of which 82% were under the age of 15. The risk factors identified included unsafe intravenous injections during medical procedures, unsafe practices at blood banks, and poorly implemented infection control programs [3].

Other than that, according to a recent survey done in Pakistan, from 4500 HIV patients in Pakistan in 2013, the number has increased to 24,331 registered with National AIDS Control Program (NACP) as of June 2019 [4].

Another startling finding is that the prevalence of HIV is due to mismanagement from the medical community and authorities, which could be due to lack of knowledge, awareness and the stigma associated with the disease that may lead to discrimination and therefore, insufficient care. The first line of defense for this massive increase could be an increased awareness among the upcoming doctors regarding HIV, their attitude and willingness to care for HIV patients. These doctors are the ones who will diagnose these patients in the near future and will be in the position to appropriately counsel and care for them. Therefore, we are conducting a study to assess the knowledge and willingness of medical students to care for HIV patients.

MATERIALS AND METHODS

A cross sectional study was conducted among medical students of Karachi, Pakistan in order to assess their knowledge and willingness to care for HIV patients. First till final year MBBS students from Dow Medical College (DMC) and Bahria University Medical and Dental College (BUMDC) participated in the study. The time period for data collection was from October 2019 to December 2019.

All students from 1st till 5th year who were selected by convenient sampling and were willing to participate were interviewed to fill out the questionnaire. We took over 500 participants to equally divide them, creating a total of approximately 50 students from each year of each school. All postgraduate and dental students were excluded from the study. Similarly, those who were uncomfortable talking about the topic were excluded and incomplete entries were discarded.

A structured, standardized questionnaire was designed. It had 22 questions and was divided into 4 sections: 4 questions on demographic information; 7 on student's knowledge about HIV transmission, prevention and cure; 8 on their attitude towards HIV patients; and the last 3 assessed the practice outlook to care for HIV patients. The questionnaire was distributed among the students and filled manually to reduce any bias that may have arose if the forms were filled online. Written consent was obtained from all individuals willing to fill the questionnaire. However, ethical approval was not required since no intervention was employed.

A sample size of 425 was calculated using OpenEpi with a confidence interval set at 99% and a statistical power of 80%. We ensured complete anonymity and out of the 550 forms that were distributed, 10 participants refused to provide written consent as they were uncomfortable talking about the topic, while 22 forms were incompletely filled, hence they were discarded. Therefore, the cooperation rate came out to 94.2%. No imputation methods were used to maintain an accurate representation of the views of the sample population. The two interviewers collected the data using a standard protocol with all subjects. They were ordered to wear identical lab coats, offer prepared explanations for questions, not to engage in mundane conversations and offer the same amount of time to each person.

Disparity between categorical variables was checked using Chi-square test whereas descriptive statistics were used to report frequencies and proportions for categorical responses. Normality was established by Shapiro Wilk test and in the case of ordinal data; the Kruskal-Wallis test was used. The data analysis was performed using Statistical Package for Social Science (SPSS) version 25.0. A p-value of less than 0.05 was considered statistically significant in all cases.

Table 1 - Socio-demographic variables of all the participants.

Basic characteristics	*n*		*Frequency (n)*	*Percentage (%)*
1. Gender	518	Male	236	45.6
		Female	282	54.4
2. Institute	518	BUMDC*	258	49.8
		DMC*	260	50.2
3. Year of study†	518	1st	96	18.5
		2nd	107	20.7
		3rd	104	20.1
		4th	99	19.1
		5th	112	21.6
4. Religion	518	Islam	448	86.5
		Hinduism	49	9.5
		Christianity	9	1.7
		Sikhism	3	0.6
		Others	9	1.7

*BUMDC, Bahria University Medical & Dental College; DMC, Dow Medical College.

RESULTS

Basic characteristics

Our study consisted of 518 participants, of which 54.4% (n=282) were females, and a majority (86.5%; n=448/518) belonged to the Islam religion. A similar number of participants was selected from each university, 258 participants being from BUMDC, and 260 participants from DMC. Each year of study had a similar number of participants. Similarly, each year comprised of an equivalent number of participants. The participants were then divided into a pre-clinical group, comprising of first and second year of medical school, and into a post-clinical group which comprised of third, fourth and fifth year of medical school. 203 participants belonged to the pre-clinical group, while 315 belonged to the post clinical group. The basic characteristics of our study are displayed in Table 1.

Knowledge of medical students regarding HIV/AIDS

Table 2 displays knowledge regarding HIV. A majority number of participants learned about HIV through books (60.8%; n=315/518), followed by medical personnel (55.4%; n=287/518) and through television (27.8%; n=144/518). A significant association was found between learning about HIV through medical personnel (p=0.020). When asked regarding the transmission of HIV, almost everyone (94.8%) knew about its spread through body fluid, followed by unprotected intercourse (357/518) and tattoo's and piercings' (272/518).

Table 2 - Knowledge regarding HIV and its relationship with year of study.

Items	*No. of responses (n)*	*Percentage (%)*	*Most popular response (%)*	*p-value*
5. Where did you learn about HIV from?	518	100	Books (60.8)	0.220
6. How do you think HIV could be transmitted?	518	100	Body fluids (Semen/Rectal fluids/ Vaginal fluids/Breast milk) transmission from a person infected with HIV (94.8)	0.102
7. The median latent period between HIV and AIDS is?	518	100	5-8 years (42.6)	0.296
8. Is there any difference between HIV and AIDS?	518	100	Yes (60.4)	0.625
9. Tests for detecting HIV/AIDS?	518	100	ELISA (82.2)	0.057
10. HIV can be prevented by?	518	100	Avoiding multiple sex partners (61.6)	0.375
11. Is AIDS a curable disease?	518	100	No (73.9)	0.108

A significant result was found between the transmission and unprotected intercourse and tattoos and piercings. Furthermore, surprisingly, a significant finding was found between the transmission of HIV with kissing, touching someone and sneezing, with p-values of 0.003, 0.021, and 0.001, respectively. This finding was more prevalent in students of pre-clinical years than post-clinical years. The highest number of participants who believed HIV is transmitted through kissing (29.1%; n=39/134) and touching (41.7%; n=10/24) belonged to 2nd year, while one-third of the population who believed its spread by sneezing coughing belonged to the first year (31.5%; n=29/92).

Additionally, more pre-clinical year students (124/222) believed the latent period to be anywhere from 5 to 8 years, however post-clinical year (127/182) students believed it was lesser than five years (p=0.001). Moreover, more than half of the participants knew there was a difference between HIV and AIDS, equally represented by both groups (p=0.903). Furthermore, when asked about tests to detect HIV, a majority (82.2%; n=426/518) knew about Enzyme-linked Immune Sorbent Assay (ELISA), and approximately half (47.9%; n=248/518) knew regarding Western Blot. Only the indirect fluorescence antibody test showed a significant relationship with HIV testing, where the greatest number of participants belonged to 4th year of medical school (26.5%; 41/155, p=0.025).

Attitude of medical students towards HIV/AIDS patients

Table 3 shows the attitudes of participants to care for an HIV/AIDS individual. Approximately one-third (35.5%; n=184/518) of the participants stated that they would not continue their friendship if their friend were diagnosed as HIV positive. Of these, one-quarter (25%; n=46/184) belonged to their 3rd year of medical education (p=0.045). Almost one-fourth of the respondents believed that an HIV positive student should not be allowed to continue studying in school, which relatively included a greater number of post-clinical students (82/315) when compared with pre-clinical students (43/203).

Additionally, a similar majority said yes when asked if one of their family members were to be HIV positive, they would quarantine them (129/518). When respondents were asked regarding their feelings towards an HIV positive individual, 38 stated they would see them with hatred. This was much more common in pre-clinical years (25/38) when compared with post-clinical years (13/38). A majority remained indifferent towards HIV positive individuals (57.7%; n=299/518).

Table 3 - Attitude towards HIV patients and its relationship with year of study.

Items	*No. of responses (n)*	*Percentage (%)*	*Most popular response (%)*	*P-value*
12. If your friend is HIV positive, would you continue your friendship with him/her?	518	100	Yes (64.5)	0.045
13. If a student is HIV positive, she/he should be allowed to continue his/her studying in school?	518	100	Yes (75.9)	0.559
14. If one of your family members is HIV positive, would you quarantine him/her?	518	100	No (58.9)	0.701
15. What are your feelings towards a HIV positive person?	518	100	Indifferent (57.7)	<0.001
16. If as a medical officer, you had to care for a HIV patient, would you feel	518	100	Somewhat anxious (59.3)	0.088
17. Do you think treating a HIV patient can infect you with AIDS?	518	100	No (66.8)	0.580
18. Do you feel adequately prepared to deal with the psycho-social problems of HIV/AIDS patient?	518	100	No (64.3)	0.070
19. Do you think people with AIDS should be quarantined?	518	100	No (80.0)	0.053

Table 4 - Practice regarding HIV and its relationship with year of study.

Items	*No. of responses (n)*	*Percentage (%)*	*Most popular response (%)*	*P-value*
20. It is best to train a few specialists who would be responsible for the treatment of HIV+/AIDS patients?	518	100	Yes (62.0)	0.295
21. Would you feel resentful if HIV+/AIDS patients accounts for a significant part of your caseload?	518	100	No (65.8)	0.624
22. Would you be willing to treat an HIV infected individual?	518	100	Maybe (47.3)	0.344

The majority of the participants (76.6%; n=397/518) stated that they would be either very anxious or somewhat anxious if they were to care for an HIV patient. Of which, 80% (n=256/315) of the participants belonging to the post-clinical group felt this way, and about two-thirds of pre-clinical participants felt this way (69.5%; n=141/203). 64.3% (n=333/518) participants mentioned that they do not feel confident enough to adequately respond to psycho-social problems of patients with HIV/AIDS. Surprisingly, this was more prevalent in students of post-clinical years (68.6%; n=216/315) than pre-clinical years (57.6%; n=117/203). Lastly, one-third (33.2%; n=172/518) thought treating an HIV patient may infect them with HIV as well.

Practices of medical students regarding HIV/AIDS patients

About 40% (197/518) of the participants believed it would not be essential to train a few specialists who would be responsible for the treatment of HIV/AIDS, while one-third of the respondents will feel resentful if HIV/AIDs patients accounted for a considerable part of their caseload. Finally, only 180 out of 518 participants were willing to treat an HIV individual, with similar percentages from both pre-clinical and post-clinical years. Table 4 shows the frequency of practices regarding HIV.

DISCUSSION

Primarily, there are various sources through which awareness of HIV could be sought; however, a huge number of students gained knowledge regarding HIV from medical personnel during their post-clinical years, with a majority being in their final year. This finding is consistent with a previous study conducted among clinically recruited medical students from 4th to 6th year, where most (73.7%) students gained information regarding HIV through their ward rotations, and the rest learnt through training on post-exposure prophylaxis for HIV [5]. Thus, this illustrates that preponderance of students with clinical rotations had a higher knowledge of HIV/AIDS by medical personnel compared to students who did not have clinical exposure. A survey was done which showed that education had a direct relation to the knowledge, attitude and awareness level among the respondents [6].

Furthermore, majority of the medical students knew that the mode of transmission of HIV/AIDS is via unprotected sex. Moreover, a significant number of students believed that oral route could be one of the ways of its spread. A study was conducted amongst college students in Delhi and Pune and students of Qassim University in KSA, who all shared a similar conception concerning the spread via oral route. Another study conducted among first year medical students showed that 58% of students believed that HIV is transmitted via oral route [7]. Another misconception that 1st year students in the survey had was, that they believed the transmission of the virus is via insect bite and non-intimate touch. This was congruent to the results of our study, validating importance of conducting such studies to induce awareness. A disturbing finding in our study was that several students, majority being in their first year, thought HIV/AIDS can be spread by coughing and sneezing. A similar finding was seen in a study conducted by Mehra et al., in which several participants had misperception regarding spread of HIV through coughing/sneezing, mosquito bites, touching an HIV infected person or sharing towels and clothes with them [6-9].

Moreover, our study showed a significant number of 2nd year students followed by 4th year students having a false perception of HIV being

transmitted by kissing. A similar study conducted in Democratic Republic of the Congo (DRC) reported that one of most common misconception amongst students was regarding transmission of HIV through kissing on mouth [8]. This could be because HIV as a topic is taught in 2nd year and beyond in the academic coursework. Perhaps, this lack of knowledge and darkness regarding the awareness of HIV in the youth of our country could be due to lacking sex education, and since Pakistan consists of primarily a Muslim population; dialogue regarding sexual practices is considered taboo and unsought. An editorial on need of sexuality education in Pakistan also highlighted this misconception regarding sexual practices, the lack of public dialogues; largely due to the strong religious influence and traditional practices as well as the open platform for criticism it brings along [10].

Additionally, awareness regarding various methods of detecting HIV among the medical students, the indirect fluorescent antibody test was highly known by the 4th year medical students, followed by ELISA, which was well known by the most participants, majority being the final year students. Moreover, approximately half were familiar with the Western Blot test. A similar study was conducted among the 4th and 5th year students of Sindh Medical College, Karachi where approximately three-fourths were aware regarding the use of HIV antibody test for diagnosis. They also knew that ELISA, Western Blot, rapid HIV test can be used in testing HIV.

Moving on, a majority in our study knew about condoms as a method to prevent spread of HIV. This result is supported by a study conducted in Ghana amongst senior high school students, where 26.2% of respondents had a history of sexual intercourse. Of those, 51.9% used condoms for coitarche and 41.5% used it regularly. Many different studies were conducted with different percentile of respondents using condoms [8-12]. The popularity condoms have gained among students and its efficacy in preventing HIV transmission is yet controversial, irrespective of religious convictions or without. Moreover, condoms do not provide absolute protection due to its improper use, reuse, inconsistent use, use while intoxicated and manufacturing defects that may lead to its breakage. Hence, condoms should not be considered as a part of protection against HIV transmission. Also, one of the methods of prevention chosen by the majority students was avoiding multiple sexual partners. According to a study, multi-partner sexual activity is considered one of the highest risk factors for contracting HIV [13]. Thus, counterpart to the reasoning where condoms do not provide absolute protection, use of condoms is actively encouraged since having one sexual partner is not always possible.

Surprisingly, few students from first and second year chose the way of prevention by not talking to HIV positive individuals, which adds to scientific evidence that lack of clinical knowledge and awareness is the root cause among the pre-clinical medical students. This further demonstrates that lack of proper medical education in our society portrays an HIV individual in a derogatory manner that even speaking to them may cause spread of HIV. However, post-clinical students knew that HIV is not transmissible by talking to an HIV positive individual. This is likely due to the clinical knowledge and awareness gained during these years, unlike how the society puts it through. Similarly, some pre-clinical students chose that not sharing space with an HIV positive individual is one of the preventions; this again is due to the lack of knowledge in their pre-clinical years.

More than half believed that AIDS in not curable, and whereas a few believed that it is curable. This, however, depends on how early AIDS has been diagnosed and how consistent an AIDS patient is towards their post exposure prophylaxis. A study was conducted among pre-clinical medical students in a Nigerian university which showed that 95% agreed to the fact that there is no cure for the disease [14]. Regarding the attitudes of medical students towards HIV positive individuals; two-third mentioned that they would continue being friends with an HIV positive individual. This finding is congruent to a study conducted in Ghana, where around 79% of respondents had a positive attitude when asked if they were willing to be around and care for HIV individuals. However, a few had a negative attitude and were not willing to share a cup with HIV positive individual. This attitude was parallel to the findings of Nubed et al. and Akoachere et al. [8, 15].

Furthermore, in our survey, majority of the medical students agreed that an HIV positive student should be allowed to continue his/her studies in school. However, a few participants surprisingly

disagreed to this. This again is due to unfamiliarity to HIV, as according to the U.S. Department of Education, children with AIDS can pursue their education in a regular classroom without any restrictions. There is no evidence of spread of HIV in a school setting [16].

Also, one-fourth of the participants wanted to quarantine their family members, if one of their family members was an HIV positive individual. This is congruent to a study conducted by Foum L, et al. where 23.4% believed that HIV positive individual should be quarantined. This however is not necessary as spread of HIV is not contagious and is instead due to body fluids such as semen and blood [17]. Additionally, when asked about the participants' feelings towards an HIV positive individual, a huge ratio was distributed between compassion and indifferent solicitude, and a few participants surprisingly had hatred towards such an individual. This manifests how orthodox our society and its thought process are, therefore, potentiating existence of such studies.

Like any study, our study also had some limitations. First, the fact that only two medical colleges from Karachi were taken in our study, the results cannot be generalized to a broader population. Second, a dialogue regarding controversial topics such as HIV is considered taboo in our society; participants may have chosen a more socially accepted response than the actual intended response. Last, convenience sampling was done to collect data; hence therefore, this may lead to a degree of bias.

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Lampiran 5

Hubungan Pengetahuan Tentang HIV/AIDS dan Sikap Mahasiswa Terhadap ODHA

The Correlations Between Student's HIV/AIDS Knowledge and Their Attitude Toward PLWHA

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Abstract

HIV/AIDS has become a burden for health in with it sufferers has reached 39 million worldwide. Around 620 thousand PLWHA has been identified all over Indonesia, with Surabaya has been listed among the top five cities with the highest number of HIV / AIDS cases in Indonesia. This study was to determine the correlations between the HIV / AIDS knowledge with the Surabaya college student's attitude towards PLWHA. This study was observational analytic research with cross-sectional approach. A proportional sampling chose as the research sampling technique, with 250 college students became the respondents. Data were collected from the results of filling out the online questionnaire. A Contingency Phi was used to perform a statistical test. The results indicated only 41.6% of respondents had a good knowledge level about HIV/AIDS, while 77% of the students have already shown a positive attitude towards PLWHA. Furthermore, it is known that there was a relationship between students' knowledge regarding HIV / AIDS and their attitude towards PLWHA with a p-value of 0,000. From these results, it is expected that there will be an HIV/AIDS socialization for college students to increase a more comprehensive knowledge about HIV/AIDS and PLWHA.

***Keywords**:* knowledge, attitude, HIV/AIDS, PLWHA

Abstrak

HIV/AIDS merupakan penyakit yang menjadi beban bagi dunia internasional. Jumlah penderita HIV/AIDS di seluruh dunia adalah 39 juta jiwa. Indonesia sendiri memiliki 620 ribu ODHA dengan lima kota tertinggi kasus HIV/AIDS salah satunya adalah Surabaya. Tujuan penelitian ini adalah untuk mengetahui hubungan pengetahuan tentang HIV/AIDS dengan sikap mahasiswa Surabaya terhadap ODHA. Penelitian ini merupakan penelitian analitik observasional dan menggunakan pendekatan cross Sectional. Teknik sampling yang digunakan adalah dengan *proportional sampling*, diperoleh sampel sebanyak 250 responden. Data dikumpulkan dari hasil pengisian kuesioner daring. Uji statistik yang digunakan adalah *Contingency Phi*. Hasil penelitian ini adalah tingkat pengetahuan mahasiswa sudah baik yaitu sebesar 41,6 %, sedangkan 77% mahasiswa bersikap postif terhadap ODHA. Berdasarkan uji statistik menggunakan *Contingency Phi*, terdapat hubungan antara hubungan pengetahuan tentang HIV/AIDS dengan sikap mahasiswa terhadap ODHA dengan *p value* sebesar 0,000. Dari hasil tersebut diharapkan diadakan sosialisasi tentang HIV/AIDS pada mahasiswa dengan tujuan untuk meningkatkan pengetahuan yang menyeluruh tentang HIV/AIDS dan ODHA.

Kata Kunci: *pengetahuan, sikap, HIV/AIDS, ODHA*

Pendahuluan

Pengetahuan adalah hasil penginderaan manusia, atau hasil tahu seseorang terhadap suatu objek dari indra yang dimilikinya (1). Pengetahun adalah hasil tahu manusia terhadap sesuatu, atau segala perbuatan manusia untuk memahami suatu objek tertentu (2). Secara definitif sikap berarti suatu keadaan jiwa dan keadaan berfikir yang disiapkan untuk memberikan tanggapan terhadap suatu objek yang di organisasikan melalui pengalaman serta mempengaruhi secara langsung atau tidak langsung pada praktik atau tindakan (1).

Acquired Immune Deficiency Syndrome (AIDS) merupakan kumpulan gejala penyakit yang disebabkan oleh *Human Immunodeficiency Virus* (HIV). Penderita HIV/AIDS sebagian besar berada pada usia produktif (15-49 tahun). Bagi penderita dan keluarganya, selain dampak terhadap kesehatan dan ekonomi, ada beban berat lain yaitu adanya diskriminasi dan stigmatisasi bagi yang bersangkutan maupun keluarganya. Diskriminasi dan stigmatisasi dapat menyebabkan kesulitan dalam pekerjaan, perawatan, pengobatan dan interaksi sosial keluarga di masyarakat (3). Kematian karena AIDS juga menyebabkan umur harapan hidup menjadi lebih pendek. Maka, secara umum, HIV/AIDS dapat menyebabkan penurunan sumber daya manusia secara signifikan, karena menyebabkan kematian penduduk usia muda dan memperlambat pertumbuhan ekonomi (3).

Pada tahun 2018 WHO menyatakan bahwa terdapat 36,9 juta orang penderita HIV/AIDS. Lima negara dengan kasus HIV/AIDS tertinggi adalah Swaziland, Lesotho, Botswana, Afrika Selatan dan Namibia. Sedangkan data di Indonesia sendiri, terdapat 620 ribu penderita HIV/AIDS sepanjang 2017. Jumlah tersebut merupakan 0,4% dari keseluruhan penduduk Indonesia. Sampai dengan Desember 2016, di Jawa Timur, jumlah kasus AIDS yang dilaporkan adalah 17.394 orang, dan 36.881 kasus HIV. Dari jumlah tersebut 3.679 (21,1%) diantaranya meninggal dunia. Angka tersebut sesungguhnya jauh lebih kecil dibandingkan angka yang sebenarnya terjadi, dan dari hasil estimasi sampai dengan tahun 2012 diperkirakan jumlah ODHA di Jawa Timur mencapai 57.321 orang. Pada September 2003, provinsi Jawa Timur ditetapkan sebagai wilayah dengan prevalensi HIV yang terkonsentrasi bersama 5 (lima) provinsi lainnya, yaitu DKI Jakarta, Papua, Bali, Riau dan Jawa Barat. Kasus AIDS didominasi oleh kelompok umur seksual aktif, yang tertinggi adalah kelompok usia 25-49 tahun sebanyak 775 (69,9%) kasus. Disamping itu kasus HIV sudah ada yang manifestasi menjadi AIDS di kalangan anak-anak (0-14 tahun) sebanyak 57 anak.

Pengetahuan yang kurang merupakan salah satu penyebab seseorang terinfeksi HIV/AIDS. Pada tahun 1980an sebagian besar masyarakat percaya bahwa HIV/AIDS hanya disebabkan oleh praktek homoseksual. Oleh karenanya beberapa negara sampai menerapkan hukuman mati bagi para pelaku homoseksual. Namun ternyata justru praktek heteroseksual juga turut berkontribusi terhadap banyaknya penderita HIV/AIDS. Ketidaktahuan akan perilaku penggunaan NAPZA suntik juga menyebabkan banyaknya pengguna NAPZA suntik yang tidak menyadari bahaya HIV/AIDS saat menggunakan jarum suntik secara bersamaan. Probablilitas seorang penasun (Pengguna NAPZA Suntik) adalah 50%, artinya jika terdapat 10 orang Penasun, dipastikan 5 orang diantaranya adalah pengidap HIV/AIDS.

Pengetahuan tentang pencegahan HIV/AIDS juga masih dirasa belum disosialisasikan secara masiv oleh provider kesehatan. Beberapa studi pendahuluan tentang pengetahuan akan pencegahan HIV/AIDS mengemukakan bahwa masih banyak masyarakat yang percaya bahwa antibiotic bisa menyembuhkan HIV/AIDS. Masyarakat yang lain juga percaya bahwa menyiram organ reproduksi dengan cairan pemutih atau *bleaching* setelah berhubungan seksual bisa mencegah HIV/AIDS. Bahkan di beberapa Negara di Afrika, masyarakatnya percaya bahwa berhubungan seksual dengan manusia albino atau perawan atau perjaka bisa menyembuhkan HIV/AIDS. Sedangkan sikap masyarakat terhadap ODHA dan penatalaksanaan penyakit HIV/AIDS juga masih rendah seiring dengan diskriminasi terhadap ODHA padahal sosialisasi tentang hal tersebut sudah banyak dilakukan.

Berdasarkan data di atas, kelompok umur 25-49 tahun adalah yang terbanyak menderita HIV/AIDS. Padahal, penyakit ini memiliki *window period* sekitar 5-10 tahun yang artinya, paparan HIV/AIDS didapatkan saat usia 15-20 tahun. Usia ini adalah usia mayoritas mahasiswa yang dianggap rentan tertular dikarenakan pengetahuan yang kurang akan bahaya HIV/AIDS. Tujuan penelitian ini adalah untuk mengetahui hubungan antara pengetahuan tentang HIV/AIDS dan sikap pencegahan HIV/AIDS pada mahasiswa UIN Sunan Ampel Surabaya.

Metode Penelitian

Penelitian ini merupakan penelitian analitik observasional dan menggunakan pendekatan *Cross Sectional*. Populasi dalam penelitian ini adalah seluruh mahasiswa UIN Sunan Ampel Surabaya pada periode bulan Agustus 2018. Teknik Sampling yang digunakan adalah dengan *proportional sampling*, diperoleh sampel sebanyak 250 responden. Penelitian ini dilakukan di UIN Sunan Ampel Surabaya dengan alasan pemilihan lokasi penelitian adalah karena belum pernah dilakukan penelitian serupa sebelumnya. Waktu penelitian adalah bulan Agustus 2018. Teknik pengumpulan data diperoleh dari pembagian kuesioner yang dibagikan kepada mahasiswa melalui kuesoner daring. Hasil pengumpulan data disajikan dengan tabel distribusi frekuensi berupa tabel dan grafik. Pengkategorian variabel pengetahuan dengan menggunakan modifikasi teori dari Nursalam yaitu 0%-75% kurang baik sedangkan 76%-100% baik (4). Sedangkan sikap menggunakan *Pareto Law* yaitu jika nilai sikap 0%-79% maka dikatakan tidak setuju. Jika nilai 80%-100% dikatakan setuju.

Hasil

Karakteristk Responden

Berdasarkan tabel 1 dapat diketahui sebagian besar responden 82 % adalah perempuan dengan 62 % responden berusia 18 tahun

Tabel 1 Distribusi frekuensi karakteristik responden berdasarkan jenis kelamin dan umur

Karakteristik	Jumlah	
	n	%
Jenis Kelamin		
- Laki-laki	45	18
- Perempuan	205	82
Umur		
- 16 tahun	1	0.4
- 17 tahun	16	6.4
- 18 tahun	155	62
- 19 tahun	58	23.2
- 20 tahun	13	5.2
- 21 tahun	4	1.6
- 22 tahun	2	0.8
- 23 tahun	1	0.4

Pengetahuan tentang HIV/AIDS

Dari hasil pengolahan data menunjukkan bahwa lebih dari setengah (58%) responden memilik tingkat pengetahuan kurang tentang HIV/AIDS sedangkan 42 % tergolong memiliki tingkat pengetahuan yang baik (gambar 1),

Gambar 1. Persentase tingkat pengetahuan responden tentang HIV/AIDS

Tabel 2. Distribusi frekuensi pengetahuan tentang penyebab dan gejala HIV/AIDS

Item pengetahuan	Ya		Tidak	
	n	%	n	%
Pernah mendengar tentang HIV/AIDS	249	98	1	2
Mengetahui definisi HIV	219	87,6	31	12,4
Mengetahui definisi AIDS	220	88	30	12
Mengetahui agen biologis penyebab HIV/AIDS	246	98,4	4	1,6
Mengetahui prognosis HIV dengan mengkonsumsi obat	190	75,9	60	24,1
Mengetahui gejala HIV dengan melihat fisik	214	85,5	36	14,5
Merasa berisiko terinfeksi HIV	36	14,5	214	85,5

Hampir seluruh responden pernah mendengar istilah HIV/AIDS (98%), 88 % menjawab benar kepanjangan dari HIV dan AIDS. 98 % mengetahui agen biologis penyebab HIV. 24,1 % mengatakan HIV/AIDS dapat disembuhkan dengan obat.

Tabel 3. Pengetahuan tentang pencegahan HIV/AIDS

Pengetahuan Pencegahan	Ya, tahu		Tidak tahu	
	n	%	n	%
Pencegahan HIV dapat dilakukan melalui				
- penggunaan kondom	165	65,9	85	34,1
- berlaku setia kepada pasangan	223	89,2	27	10,8
- mengkonsumsi makanan bergizi	96	38,4	154	61,6
- melalui vaksinasi	46	18,5	204	81,5
- mengkonsumsi obat antibiotik	142	56,6	108	43,4

Pengetahuan tentang pencegahan HIV/AIDS 14,5 % merasa berisiko tertular HIV, 14,5% mengetahui seseorang sudah terinfeksi HIV hanya dengan melihat. Pengetahuan tentang Penularan HIV AIDS , 65,9 % mengetahui cara mengurangi risiko tertular HIV dengan menggunakan kondom setiap melakukan seks. 89,2 % mengetahui setia pada satu pasangan dapat mengurangi risiko tertular HIV. 61,6 % menyatakan makan makanan yang bergizi dapat mengurangi risiko tertular HIV. 81,5 % menyatakan vaksinasi dapat mengurangi risiko tertular HIV. 56,6 % menyatakan minum antibiotik sebelum dan sesudah melakukan seks dapat mengurangi risiko tertular HIV.

Tabel 4. Pengetahuan tentang penularan HIV/AIDS

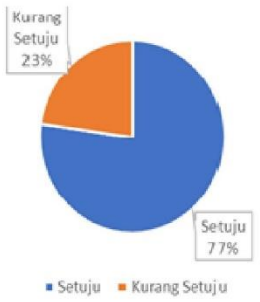
Pengetahuan tentang penularan HIV / AIDS	Ya, benar		Tidak benar	
	n	%	n	%
Dapat ditularkan melalui transfusi darah	240	96	10	4
Dapat ditularkan melalui kebiasaan bertukar pakaian	183	73,2	67	26,8
Dapat ditularkan dari ibu hamil kepada bayinya	231	92,4	19	7,6
Dapat ditularkan melalui perilaku homoseksual	216	86,4	34	13,6
Dapat ditularkan melalui perilaku oral seks	209	83,7	41	16,3
Tidak dapat ditularkan melalui perilaku masturbasi	165	65,9	85	34,1
Tidak dapat ditularkan melalui gigitan nyamuk	200	80,3	50	19,7
Tidak dapat ditularkan melalui bertukar peralatan makan	117	46,6	133	53,4
Dapat ditularkan melalui penggunaan alat suntik NAPZA secara bersama-sama	244	97,6	6	2,4
Tidak dapat ditularkan melalui wadah air yang digunakan bersama ketika menyiapkan NAPZA	172	68,7	78	31,3

Pengetahuan tentang Penularan HIV/AIDS, sebagian besar (86 %) mengetahui HIV dapat ditularkan melaui transfusi darah., 73,2 % mengetahui HIV tidak dapat ditularkan melalui bertukar pakaian,

Hampir seluruh responden (92,4%) mengetahui HIV dapat ditularkan melalui ibu hamil kepada bayinya, sebagian besar (86,4%) mengetahui HIV dapat ditularkan melaui perilaku homoseksual, sebagian besar (83,7%) mengetahui HIV dapat ditularkan melalui perilaku oral seks, lebih dari setengah (65,9%) mengetahui HIV tidak dapat ditularkan melalui perilaku masturbasi, sebagian besar (80,3%) mengetahui HIV tidak dapat ditularkan melaui gigitan nyamuk, lebih dari setengah (53,4%) tidak mengetahui HIVtidak dapat ditularkan melaui bertukar peralatan makan, hampir seluruh responden (97, 6 %) mengetahui HIV dapat ditularkan melaui perilaku menggunakan alat suntik/NAPZA secara bersama-sama, lebih daro setengah responden (68,7 %) mengetahui HIV tidak dapat ditularkan melalui wadah air yang mereka gunakan bersama ketika menyiapkan NAPZA.

Sikap responden terhadap ODHA

Sikap responden terhadap ODHA menunjukkan 77 % bersikap positif (setuju) sedangkan 23 % lainnya bersifat negatif (kurang setuju)



Gambar 2 Persentase Sikap responden terhadap ODHA

Tabel 5. Distribusi frekuensi sikap responden terhadap ODHA

Point pernyataan sikap	Setuju		Tidak Setuju	
	n	%	n	%
Jika ada rekan mahasiswa yang terinfeksi HIV/AIDS tetap diperbo-lehkan kuliah	160	64,1	90	35,9
Jika ada teman yang pecandu narkoba saya tidak akan bersikap acuh"	228	91,2	22	8,8
Penggunaan nakoba dan alkohol bukan merupakan faktor resiko penularan HIV/AIDS karena tidak dapat menyebabkan perilaku yang menyimpang	200	79,7	50	20,3
Jika anda baru mengetahui orang terdekat anda mengidap HIV/AIDS, anda akan menjauhinya	38	15,3	212	84,7
Jika ada teman yang menderita HIV/AIDS , anda akan bersimpati dan berusaha untuk membantunya	246	98,4	4	1,6
Penyakit HIV/AIDS tidak terlalu bahaya sehingga kita bisa bersikap tidak peduli saja	245	98	5	2
Melakukan prinsip monogami merupakan cara efektif pencegahan HIV/AIDS	240	96	10	4
Jika saya mendapatkan informasi baru tentang HIV/AIDS saya akan memberitahukan pada teman-teman	243	97,2	7	2,8
Jika salah satu anggota keluarga saya terinfeksi HIV/AIDS, saya tidak akan membawanya ke pelayanan kesehatan	222	88,8	28	11,2
Orang yang terinfeksi HIV/AIDS harus dikarantina	81	32,3	169	67,7

Sikap Mahasiswa terhadap penderita hanya lebih dari setengah (64,1%) yang mengizinkan tetap boleh kuliah, Hampir seluruh mahasiswa (91,2%) akan bersikap acuh terhadap teman yang pecandu narkoba, sebagian besar (79,7%) beranggapan narkoba dan alkohol bukan merupakan faktor risiko penularan HIV/AIDS karena tidak dapat menyebabkan perilaku yang menyimpang. Sebagian besar (84,7%) akan menjauhi orang terdekat apabila mengidap HIV/AIDS. Hampir seluruh mahasiswa (98,4%) akan berusaha untuk membantu dan simpati jika ada teman yang menderita HIV/AIDS. Hampir seluruh responden (98%) beranggapan penyakit AIDS tidak berbahaya sehingga bersikap tidak peduli. Hampir seluruh mahasiswa (96%)setuju melakukan prinsip monogami (tidak berganti pasangan dan setia pada satu pasangan) sebagai cara pencegahan HIV/AIDS. Hampir seluruh mahasiswa (97,2%) akan memberitahukan pada teman jika mendapatkan informasi tentang HIV/AIDS. Sebagian besar (88,8%) tidak membawa ke pelayanan kesehatan jika salah satu saudara atau anggota keluarga terinfeksi HIV/AIDS. Masih ada sebagian kecil (32,3) % setuju mengkaratina orang yang terinfeksi HIV/AIDS.

Hubungan Pengetahuan HIV/AIDS dengan Sikap Terhadap ODHA

Tabel 6. Tabulasi silang hubungan pengetahuan dan sikap responden terhadap ODHA

Pengetahuan	Sikap		**Jumlah**	*p Value*
	Setuju	Tidak Setuju		
Baik	92	12	104	0.000
Kurang	101	45	146	
Jumlah	193	57	250	

Berdasarkan tabel di atas, Uji statistik dengan menggunakan *Contingency Coefficient* memperlihatkan P value = 0,000 dengan α = 0,05. Maka H0 ditolak yang artinya terdapat hubungan antara variabel. Maka dapat disimpulkan bahwa dapat disimpulkan bahwa terdapat hubungan antara pengetahuan tentang HIV/AIDS dan sikap mahasiswa terhadap ODHA

Pembahasan

Hasil penelitian menunjukan 41,6 % responden memiliki tingkat pengetahuan baik dan 58,4 % responden dengan tingkat pengetahuan kurang. Sikap responden terhadap penderita HIV/AIDS 77 % adalah setuju dan 23 % Kurang setuju. Terdapat hubungan antara pengetahuan tentang HIV/AIDS dan Sikap dengan *P Value* 0,000

Tahapan Pengetahuan adalah tahu, memahami, aplikasi, sintesa dan evaluasi. Perilaku dan sikap seseoarang sangat dipengaruhi oleh faktor pengetahuan. Penelitian Mei Lina menunjukan bahwa pengetahuan tentang HIV/AIDS akan mempengaruhi motivasi ibu hamil untuk mengikuti PPMTCT (5). Pengetahuan memiliki peranan yang sangat penting terhadap sikap dan perbuatan seseorang. Sikap seseorang akan lebih banyak dipengaruhi melalui proses pembelajaran, sejalan dengan penelitian Bounbouly menyebutkan mayoritas siswa yang disurvey menyadari bahwa HIV dapat ditularkan melalui hubungan seksual (97,7%) dan 41,3 % mengatakan akan bersedia untuk belajar di sekolah dengan teman yang positif HIV. Siswa dengan tingkat pengetahuan yang tinggi 4,3 kali lebih mungkin menampilkan sikap positif terhadap orang yang hidup dengan HIV (6).

Perilaku yang didasari pengetahuan akan lebih efektif daripada yang tidak didasarkan pengetahuan. Pengetahuan yang baik dapat berkontribusi pada sikap positif karena dapat berarti pemahaman yang lebih baik tentang proses penularan dengan demikian pendidikan kesehatan pada mahasiswa sangat penting untuk penghapusan sikap diskriminatif terhadap ODHA. Sikap diskriminatif terhadap ODHA mungkin menjadi penghambat bagi penyebaran program kesadaran yang efisien dan konseling dan tes HIV secara sukarela. Penelitian Collins menunjukan pengetahuan yang sangat baik tentang pencegahan HIV/AIDS (62,1%) tetapi masih memiliki sikap diskriminatif dalam proporsi yang cukup besar (47,5%) (7). Penelitian zahra terhadap siswa juga menyebutkan 60,2% tingkat pengetahuan baik, 34 % pengetahuan sedang dan 5,7 % pengetahuan rendah, dan tidak terdapat perbedaan pengetahuan antara pria maupun wanita. 68,6 % sikap sedang, 23,3 % sikap baik dan 8,1 % sikap kurang (8).

Sikap sebagian besar responden adalah setuju (77%) hal tersebut dapat diartikan memiliki sikap yang positif terhadap penderita ODHA, sikap yang positif tersebut dapat disebabkan karena memiliki tingkat pengetahuan yang baik. Gambaran sikap seseorang terhadap suatu obyek sangat dipengaruhi

oleh beberapa hal seperti pengalaman pribadi, media massa, pengaruh orang lain, pengaruh kebudayaan, lembaga pendidikan, agama dan faktor emosional. Sikap mahasiswa yang baik salah satunya disebabkan karena media massa sejalan dengan penelitian Asshela Meity pada mahasiswa fakultas pertanian yang menyatakan sikap sangat setuju tentang pencegahan penularan HIV/AIDS sebanyak 82,4% mahasiswa (9). Sikap yang baik juga dapat dipengaruhi oleh usia, seiring bertambahnya usia maka informasi dan pengalaman juga bertambah, hal tersebut sejalan dengan penelitian Desilianti sari yang melakukan penelitian terhadap mahasiswa kedokteran menyebutkan 86,7% memiliki sikap baik dan hanya 13,3% responden dengan sikap kurang (10).

250 responden telah berpartisipasi dalam penelitian ini berusia mulai 16 dari hingga 23 tahun. Masa remaja akhir adalah tahap transformasi fisiologis, mental dan sosial yang merupakan ancaman bagi perilaku kesehatan berisiko. Pengetahuan yang tidak memadai akan membuat remaja rentan terhadap HIV/AIDS, penelitian vijayageetha M pengetahuan dan sikap tentang HIV/AIDS pada remaja di perkotaan 60 % responden memiliki pengetahuan baik dan hanya sekitar 50 % yang memiliki sikap negatif (11). Hasil penelitian menunjukan mahasiswa yang memiliki pengetahuan yang kurang cenderung memiliki sikap yang tidak setuju dan sebaliknya, dengan bekal pemahaman yang kurang maka mahasiswa tidak dapat memperkirakan bahwa sikapnya tersebut dapat menimbulkan efek negatif bagi dirinya ataupun lingkungan sekitarnya. Sejalan dengan penelitian Andi Ummu Salmah tahun 2015 yang menyatakan terdapat hubungan antara pengetahuan, sikap dan tindakan antara mahaiswa tentang HIV dan AIDS (12).

Mahasiswa merupakan generasi masa depan yang dapat mempromosikan pengetahuan di kalangan masyarakat. Untuk melaksanakan pengembangan program pencegahan HIV/AIDS diperlukan lebih banyak orang berpendidikan agar penyebaran informasi menjadi lebih efektif mengenai informasi pengertian HIV/AIDS, cara penularan, risiko tinggi perilaku seksual serta tindakan pencegahan yang efektif. Penelitian Han Ni terhadap mahasiswa kedokteran di malaysia mayoritas memberikan jawaban yang benar 60,6 % tentang cara penularan HIV/AIDS dan sebagian besar (83,2%) memiliki sikap tidak setuju atau tidak menujukan sikap simpati terhadap orang yang postif HIV (13)

Kesimpulan dan Saran

Hasil penelitian ini adalah tingkat pengetahuan mahasiswa sudah baik yaitu sebesar 41,6 % namun masih lebih dari setengahnya kurang yaitu sebesar 58,4%. Sikap responden terhadap penderita HIV/AIDS 77 % adalah setuju dan 23 % Kurang setuju dan terdapat hubungan antara pengetahuan tentang HIV AIDS dan Sikap mahasiswa terhadap ODHA dengan *P Value* 0,000. Dari hasil tersebut diharapkan diadakan sosialisasi tentang HIV/AIDS pada mahasiswa dengan tujuan untuk meningkatkan pengetahuan yang menyeluruh tentang penyakit ini.

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