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**HIV PREVENTION STRATEGIES AMONG HIGH-RISK POPULATIONS
IN THE EAST COAST OF MALAYSIA**

By

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**Thesis Submitted to
College of Business
Universiti Utara Malaysia,
in Partial Fulfillment of the Requirement for the
Master of Sciences (Occupational Safety and Health Management)**



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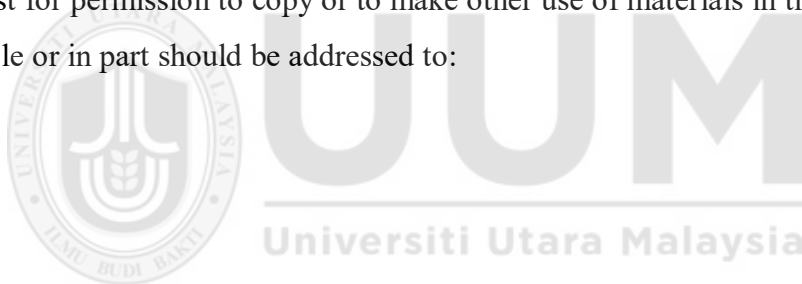
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ABSTRACT

Human Immunodeficiency Virus (HIV) is a disease caused by a virus that weaken the human immunity system. It is a major public health concern across the world. Currently, the trend of the HIV epidemic is changes due to increasing the new cases among the young male population. Surprisingly, it is common among men who have sex with men (MSM) or known as homosexual. There are 3 problem statements in this study which are HIV infection trends, mode of transmission dominated by MSM and the level of awareness among the population especially in the east coast of Malaysia region. There are three research questions in this study which is to identify whether this population is aware of HIV, what is their level of awareness in practising sexual activity and how frequently HIV screening is done for them engaging in high-risk activities to ensure that they are free from any kind of virus. There are three research objectives, which are to measure the degree of HIV awareness, the degree of understanding and consciousness among high-risk populations and the prevalence and trend in HIV screening. The significance of the study for policymakers is the improved availability of sexual health education, the promotion of preventive measures, and the reduction of discrimination. In a public health perspective, allow to develop more effective treatments and preventives programs. Target for the community to promote inclusion, decrease stigma and good support system. The findings show that the level of knowledge toward HIV is medium sufficient but need for empowering comprehensive initiatives to ensure the misconception can be eliminated.

Keywords: Men Sex with Men (MSM), Human Immunodeficiency Viruses (HIV), Knowledge, Public Health, HIV stigmatism

ABSTRAK

Human Immunodeficiency Virus (HIV) adalah penyakit yang disebabkan oleh virus dengan melemahkan system imuniti manusia. Ia merupakan satu bentuk kebimbangan kepada kesihatan awam diseluruh dunia. Pada masa ini, tran wabak HIV berubah dimana berlaku peningkatan kadar kes dikalangan lelaki muda. Anehnya, ianya kerap dikesan pada kalangan lelaki yang melakukan hubungan seks dengan lelaki (MSM) atau homoseksual. Terdapat 3 pernyataan masalah dalam kajian ini iaitu, trenjangkitan HIV, cara penulara yang didominasi oleh MSM dan tahap kesedaran dalam kalangan penduduk khususnya di pantai timur Malaysia. Terdapat tiga persoalan kajian ini iaitu mengenalpasti tahap kesedaran HIV dikalangan kumpulan berisiko tinggi, tahap kesedaran mereka dalam mengamalkan aktiviti seksual dan kekerapan saringan HIV dilakukan. Tiga objective kajian ini adalah untuk mengukur tahap kesedaran HIV, tahap pemahaman dalam populasi berisiko tinggi dan prevalens dan trend dalam pemeriksaan HIV. Kepentingan kajian adalah untuk membuat dasar bagi meningkatkan ketersediaan Pendidikan kesihatan seksual, promosi langkah pencegahan dan pengurangan diskriminasi. Dalam perspektif kesihatan awam, membolehkan bagi pembangunan rawatan dan program pencegahan yang lebih berkesan. Bagi sasaran komuniti pula ialah menggalakkan promosi bersifat inklusif, mengurangkan stigma dan system sokongan yang baik. Dapatan kajian menunjukkan tahap pengetahuan terhadap HIV adalah sederhana, bahkan memerlukan pemeraksanaan inisiatif yang lebih komprehensif bagi memastikan salah tanggapan dapat dihapuskan.

Kata Kunci : Lelaki melakukan Seks dengan lelaki (MSM), Human Immunodeficiency Viruses (HIV), Pengetahuan, Kesihatan Awam, Stigma terhadap HIV.

ACKNOWLEDGEMENT

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

(In the name of Allah, the Most Gracious and the Most Merciful)

Alhamdulillah, all praises to Allah for the strengths and His blessing in completing this thesis. Special appreciation goes to my supervisor, Dr Annuar Aswan Mohd Noor, for his supervision and constant support. His invaluable help of constructive comments and suggestions throughout the experimental and thesis works have contributed to the success of this research.

I would like to express my appreciation to the Program's coordinator, Associate Professor Mohd Faizal Mohd Isa for their support and help towards my postgraduate affairs. My acknowledgement also goes to all the technicians and office staffs of College of Business for their co-operations.

My deepest gratitude goes to my beloved parents, wife and also to my family for their endless love, prayers and encouragement. They have always be my motivation to complete this journey.

Special appreciation also goes to my colleagues and my course mates who always inspired me and gave me supports and suggestions. I am also very grateful to my friends who always motivate me during my study. Unforgettable, I wish to express my thankfulness to all the respondents who have participated in this study. To those who indirectly contributed in this research, your kindness means a lot to me. Thank you very much.

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LIST OF ABBREVIATIONS

HIV	Human Immuno-deficiency virus
DNA	Deoxyribonucleic acid
AIDS	Acquired immunodeficiency syndrome
MSM	Men who have sex with men
STDs	sexually transmitted diseases
BC	British Columbia
IVDU	Intravenous drug users
PLHIV	people living with HIV
NST	The New Straits Times
IBBS	Integrated Biological and Behavioral Assessment
NRTI	nucleoside reverse transcriptase inhibitors
NNRTI	non-nucleoside reverse transcriptase inhibitors
PI	protease inhibitors
WHO	the World Health Organization
AFR	Africa
AMR	Americas
SEAR	South-East Asia
EUR	Europe
EMR	Eastern Mediterranean
WPR	Western Pacific
AFR	The African Region
UNAIDS	the Joint United Nations Programme on HIV/AIDS
NGOs	Non-Government Organizations
AEM	Asian Epidemic Modelling
LGBT	Lesbian, Gay, Bisexual and Transgender
UDAYA	Adolescents and young adults
MOH	Ministry of Health
STIs	Sexually Transmitted Infections
LGBTQ	Lesbian, Gay, Bisexual, Transgender and Queer
MSW	Men who have sex with women
HPV	Human Papillomavirus

CLPASE	Condomless penile-anal sex with internal ejaculation
No-CLPASE	No-Condomless penile-anal sex without internal ejaculation
NSDUH	The National Survey on Drug use and Health
AADK	Agensi Anti Dadah Kebangsaan
PrEP	Pre-Exposure Prophylaxis



CHAPTER 1

1.1 Introduction

An outline and argumentation for the thesis are offered in this introductory chapter. The chapter begins by explaining the background of the study, the problem statements, and the research questions. This thesis is followed by the significance and the scope of the study. It then specifies the common terms used in this study and the organization of the study involved in accomplishing this process. At the end of this introductory chapter, come out with a conclusion.

1.2 Background Of The Study

The trend of HIV infection has seen significant changes over time. Previous study found that Men who have sex with men (MSM) in South Africa participate in risky sexual behaviour that increases the likelihood of receiving HIV as well as various sexually transmitted diseases (STDs) (Jones J. et. al., 2020; Icard L., et. al., 2020; Roux M. et. al., 2022). The guys who have receptive anal intercourse are more probable to be infected with Human Immunodeficiency Virus (HIV) and STDs compare to the guys who purely have insertive anal intercourse (Chu J. & Huang J., 2020; Li P. et. al., 2020). Sexual posture is either receptive (bottom), insertive (top), or both (versatile) and has been demonstrated to impact the probability of spreading HIV. Condomless penile-anal intimacy, engaging several male partners, and using illicit substances in the context of sexual interactions comprise all behavioural risk factors (Starks T. et. al., 2021).

The emerging trend of HIV infection has been demonstrated that affected to MSM community globally (Hessou et al., 2019; Avila et al., 2020; Pattanasin et al., 2020). Every year, the estimation of new HIV infections in Sub-Saharan Africa is about one million cases (Dwyer-Lindgren et al., 2019). In addition, the incidents of HIV cross-infection among MSM communities living in sub-Saharan Africa are significantly 10 to 15 times higher compared to the general population in the same area (Williams et al., 2020; Sandfort et al., 2021). While in the Amhara region of Ethiopia, between 2015 to 2017 has been reported a total of 35,210 cases of new HIV (Gelaw et al., 2019).

According to the quarterly surveillance report of British Columbia (BC) in 2022 was shown that the new HIV diagnoses cases are dominated by men population compared to women (figure 1.1). By age group, the BC has reported that the group with the highest number of new HIV infections is 30-39 years followed by 40-59 and 25-29 years accordingly (figure 1.2). The BC also notified that the rate of new cases of HIV is consistent despite a decrease in the total number of new diagnoses.

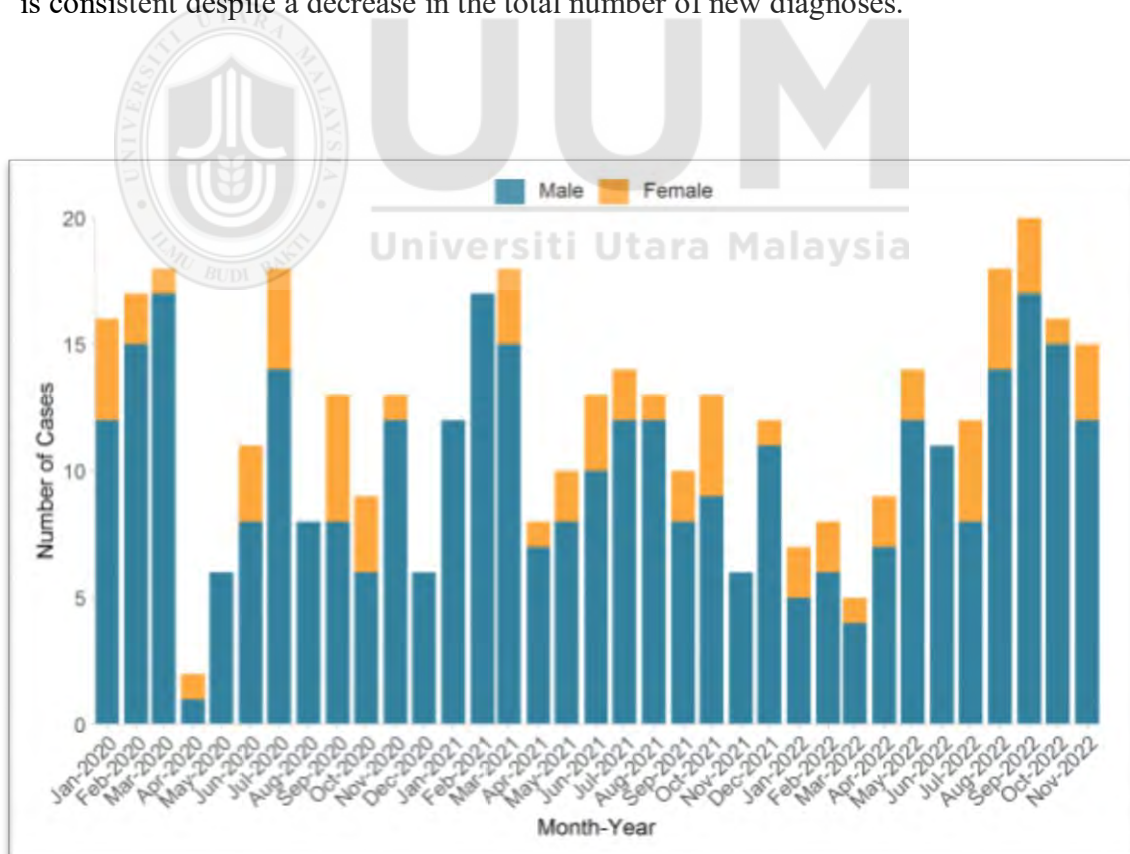


Figure 1.1

The statistic of new HIV diagnoses in BC by sex.

Source: British Columbia of surveillance report 2022, (2023)

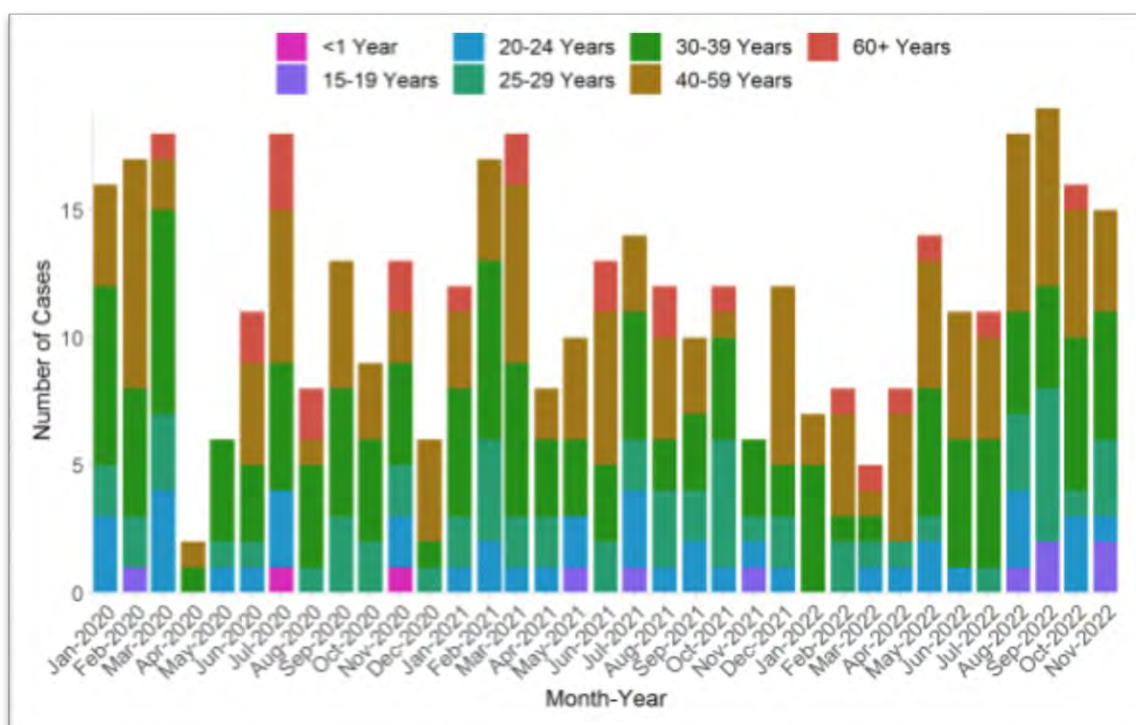


Figure 1.2

The statistic of new HIV diagnoses in BC by age group

Source: British Columbia of surveillance report 2022 (2023)

Based on the Wisevoter (2023) website page states that the average global HIV prevalence is 1.0%. The global data shows that the top 5 of the country with the highest prevalence of HIV are Eswatini (19.58%), Lesotho (18.72%), Botswana (15.75%), South Africa (14.75%), and Namibia (8.9%). These countries are followed by Zimbabwe (8.7%), Mozambique (8.21%), Zambia (6.9%), Malawi (5.69%), and Equatorial Guinea (5.18%) (Figure 1.1 & Table 1.1).

Surprisingly, our country of Malaysia is top 95 of 193 countries with a percentage of prevalence of 0.19% shared with another 2 countries, which are Mexico and Belarus. Our neighbouring countries demonstrated low prevalence compared to Malaysia, with Brunei (0.13%), Indonesia (0.12%), Singapore (0.09%), and Sri Lanka (0.01%). However, other neighbour countries such as Vietnam (76/193), Philippines (75/193), Myanmar (58/193), and Thailand (39/193) reported more highest prevalence rate compared to Malaysia which is 0.27%, 0.27%, 0.41%, and 0.78% respectively.

From Malaysia's perspective, the distribution of reported HIV cases from 1986 to 2021 by gender groups shows that the majority of cases are dominated by males since an outbreak yearly (Ministry of Health Malaysia, 2022). In the early stages of the outbreak, the population of “intravenous drug users” (IVDU) highly contributed to the HIV cases in Malaysia. However, based on projection data for 2030, the trend would be changing from IVDU to MSM due to a significant increase in new cases among this population.

Almost half of the cases in Malaysia would be contributed by the age group of 20-29 years (45%) followed by 30-39 (32%), 40-49 (13%), more than 50 (7%) and 13-19 (3%). While the distribution of people living with HIV (PLHIV) by stage within data collection in 2021, notified that the most urbanization state in Malaysia contributed to high infection, while high recorded in Selangor (30%), “Wilayah Persekutuan Kuala Lumpur” (12%), Pulau Pinang (9%), Sarawak (9%), Sabah (7%), Johor (7%) and Pahang (5%). The rest of the states recorded less than 4% of the population PLHIV in Malaysia.

As reported by the New Straits Times (NST) on December 17, 2022, mentioned by Datuk Dr Zaini Hussin (Kelantan Health Director), HIV cases of proportion in Kelantan including of MSM population notify to increase by 33.2% over five years, from 15.9% in 2016 to 49.1% in 2021. However, the data provided by Integrated Biological and Behavioral Assessment (IBBS) in 2017 that the prevalence of HIV infection caused by IVDU in Kelantan progressively decreased, which 44.7% in 2014 to 31% in 2017. In addition, he said that 7 of the highest institution of education students in Kelantan were infected with HIV last year due to engaging in sexual risk activities (KOSMO, December 17, 2022). This population have been significantly increased from 0.5% in 2010 to 8.9% in 2015 and needs special attention.

Due to easier reporting, analysis and administration purposes, the World Health Organization (WHO) divides the world into 6 areas, namely Africa (AFR), Americas (AMR), South-East Asian (SEAR), Europe (EUR), Eastern Mediterranean (EMR) and Western Pacific (WPR). The African Region (AFR) involves African population countries which are Algeria, Benin, Botswana, Angola, Burundi, Burkina Faso, Cape Verde, centre African Republic, Cameroon, Chad, Comoros, Democratic Republic of the Congo, Ivory Coast, Ethiopia, Eritrea, Equatorial Guinea, Gabon, Ghana, Gambia, Guinea, Guinea-Bissau, Lesotho, Kenya, Liberia, Madagascar, Mali, Malawi, Mauritius, Mauritania, Nigeria, Mozambique, Namibia, Niger, Republic of the Congo, Rwanda, Sao Tome and Principle, Seychelles, Senegal, Sierra Leone, South Sudan, South Africa, Eswatini, Togo, Uganda, Tanzania, Zimbabwe and Zambia (Figure 4 – The globe image of Africa countries (Blue colour)).

Meanwhile, the Americas Region (AMR) consist of 35 countries which are Argentina, Antigua and Barbuda, Brazil, Bolivia, Belize, Barbados, Bahamas, Chile, Canada, Colombia, Costa Rica, Cuba, Dominican Republic, Dominica, El Salvador, Ecuador, Guyana, Guatemala, Grenada, Haiti, Honduras, Mexico, Jamaica, Peru, Paraguay, Panama, Saint Lucia, Saint Kitts and Nevis, Saint Vincent and the Grenadines, Suriname, United States, Uruguay, Trinidad and Tobago and Venezuela (Figure 1.4 – The globe image of the region of the Americas (AMR) countries (Red Colour)).

Otherwise, the South-East Asian Region (SEAR) consist of minimal countries compared to other regions which are 11. The countries categorised as SEAR included Bhutan, Bangladesh, North Korea, Indonesia, India, Maldives, Myanmar, Sri Lanka, Nepal, Timor-Leste and Thailand (Figure 1.4 – The globe image of the region of the South-East Asian (SEAR) countries (Green Colour)).

Furthermore, 53 countries are listed in the European Region (EUR) by WHO. Are involves Austria, Armenia, Andorra, Azerbaijan, Albania, Belgium, Belarus, Bosnia and Herzegovina, Bulgaria, Cyprus, Croatia, the Republic of Czech, Denmark, France, Finland, Estonia, Georgia, Germany, Greece, Italy, Ireland, Iceland, Hungary, Israel, Kazakhstan, Kyrgyzstan, Luxembourg, Latvia, Lithuania, Moldova, Malta, Monaco, Montenegro, Norway, North Macedonia, Netherlands, Poland, Portugal, Russia, Romania, Serbia, San Marino, Slovenia, Slovakia, Sweden, Switzerland, Spain, Turkmenistan, Turkey, Tajikistan, Ukraine, Uzbekistan and United Kingdom (Figure 1.4 – The globe image of the European Region (EUR) countries (Purple Colour)).

Meanwhile, the Eastern Mediterranean Region (EMR) is Arabic islands which are Afghanistan, Bahrain, Egypt, Djibouti, Iraq, Iran, Palestine, Kuwait, Jordan, Lebanon, Morocco, Libya, Pakistan, Oman, Saudi Arabia, Qatar, Somalia, Syria, Sudan, Tunisia, Yemen and the United Arab Emirates (Figure 1.4 – The globe image of the Eastern Mediterranean Region (EMR) countries (Yellow Colour)).

Basically, our beloved country is categorized with another 27 countries under the Western Pacific Region (WPR) by WHO, which includes Australia, Cook Islands, China, Cambodia, Brunei, Japan, Fiji, Laos, Micronesia, Marshall Islands, Mongolia, Niue, New Zealand, Nauru, Papua New Guinea, Palau, Philippines, Singapore, Samoa, Solomon Islands, South Korea, Tuvalu, Taiwan, Tonga, Vanuatu and Vietnam (Figure 1.4 – The globe image of the Western Pacific Region (WPR) countries (Mint Green Colour)).

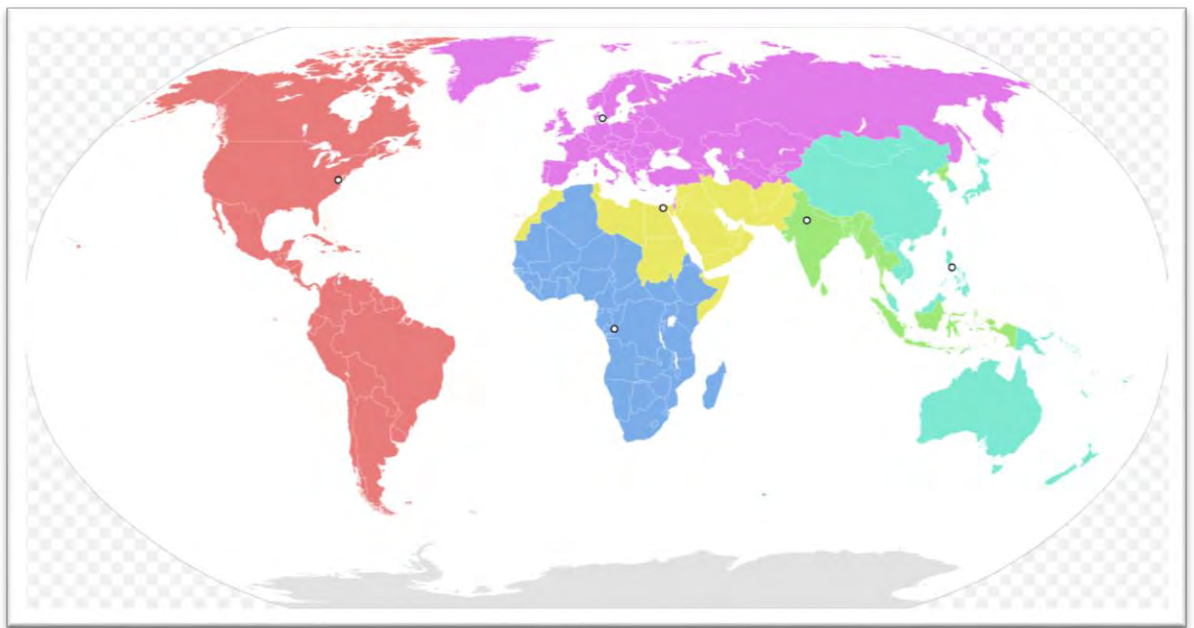


Figure 1.4

The global image of 6 regions of countries by WHO

Source: UNAIDS/WHO (2023)

Globally, about 29.8 million individuals who were positively diagnosed as HIV carriers received antiretroviral therapy. Based on statistics by WHO in 2022, an estimated 86% of people living with HIV knew their serological status and only 76% of them received treatment. While 71% who received treatment have successfully suppressed their viral loads in the body.

In the African region, an estimated 25.6 million individuals who categorised as living with HIV in 2022. While 90% of them realised their HIV status. In this region, an estimated 82% or 20.9 million people with HIV receive treatment in 2022 but only 76% of them successfully suppressed their viral load. In total, the WHO estimated about 20.9 million people were receiving antiretroviral treatment in 2022. HIV-related causes of death in 2022 in the African region accounted 380 000. This statistic demonstrated that decrease of 56% from 2010. In 2022, an anticipated 660,000 people got HIV, while the number of people getting HIV at all ages declined to 0.57 per 1000 healthy people in 2022, instead of 1.75 in 2010.

Otherwise, in 2022 was estimated at 3.8. million people who positive for HIV in the region of the Americas and the person who knew their status only 86% of that. For receiving treatment, estimated only 71% and 65% had successfully suppressed their viral loads. WHO estimated only 2.7 million people in this region will receive antiretroviral treatment in 2022. In 2022, an expected 160,000 persons obtained HIV, while the prevalence of people receiving HIV of all ages fell to 0.16 per 1000 uninfected people in 2022 compared to 0.18 in 2010. In 2022, 41,000 fatalities were recorded linked to HIV-related reasons, a 37% decline from 2010.

Furthermore, in 2022 approximately 3.0 million individuals in the European region lived with HIV, with 72% knowing their status positively in HIV. Roughly about 63% of them undergo proper treatment and 60% have suppressed viral levels in the body. In 2022, a total of 1.9 million individuals were taking antiretroviral medication in this region has been recorded. Predicted about 180 000 persons acquired HIV and the number of those acquiring HIV at all ages cultivated to 0.20 per 1000 healthy people which is a rise compared to 0.16 in 2010.

According to WHO statistical data, a projected 490,000 individuals will live with HIV in 2022 was predicted in the Eastern Mediterranean region. Based on this projection, only 38% know their status of HIV positive with 27% undergoing treatment and about 24% having controlled their viral loads level in their body. In this region, an estimated only 130,000 persons were taking antiretroviral drugs in 2022. Expected that about 56,000 persons will obtain HIV in 2022 in this region, while the proportion of people obtaining HIV at all ages increase to 0.07 per 1000 healthy people in 2022, compared to 0.05 in 2010. A total of 20,000 fatalities have been recorded linked to HIV causes in 2022 which is a 72.3% increase from 2010.

Whereby in the Western Pacific region, nearly 2.2 million people become HIV positive in 2022. From this estimation, only 81% know their status of HIV, 73% of them will go through treatment and 70% have controlled the virus loads in the body. Instead of 2022, an anticipated 140,000 persons obtained HIV while the proportion of people acquired HIV of all ages stayed consistent at 0.07 per 1000 healthy persons, the same in 2010 statistics data. However, in 2022, accounted of 51,000 cases of fatalities were linked to HIV-related causes recorded in the Western Pacific region which is a decrease of 24.7% compared to 2010 but a slightly increase in 2021 with 3.5%.

Lastly in the South-East Asian region, roughly about 2.9 million people were suspected for HIV positive in 2022. Even though, projected only 81% of them know their status of HIV, only 65% participate in antiretroviral therapy and 61% recorded that they can suppress the HIV virus loads in their body. Based on WHO, the projection for 2022 shows that only 2.6 million individuals in this region consumed antiretroviral medication. As predicted in 2022, 110,000 persons acquired HIV, while the prevalence of people acquired HIV of all ages fell to 0.06 per 1000 healthy people in 2022, compared to 0.12 in 2010. In 2022, 85,000 mortality were attributable to HIV-related causes, marking a 63.4% reduction from 2010.

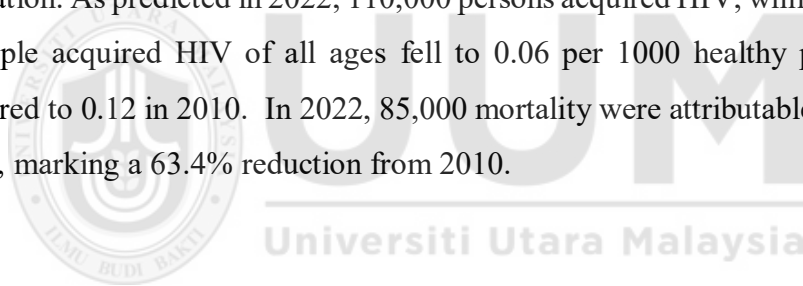


Table 1.1

Projection numbers of HIV-positive persons of all ages in 2010, 2021 and 2022

WHO region	Projection number of PLHIV		
	2010	2021	2022
Global	31 500 000	38 700 000	39 000 000
African	21 500 000	25 500 000	25 600 000
• Eastern and Southern Africa	16 500 000	20 400 000	20 400 000
• Western and Central Africa	4 900 000	5 100 000	5 100 000
Americas	2 700 00	3 700 000	3 800 000
South-East Asia	4 100 000	3 900 000	3 900 000
Europe	1 600 000	2 900 000	3 000 000
Eastern Mediterranean	240 000	460 000	490 000
Western Pacific	1 400 000	2 200 000	2 200 000

Source: UNAIDS/WHO (2023)

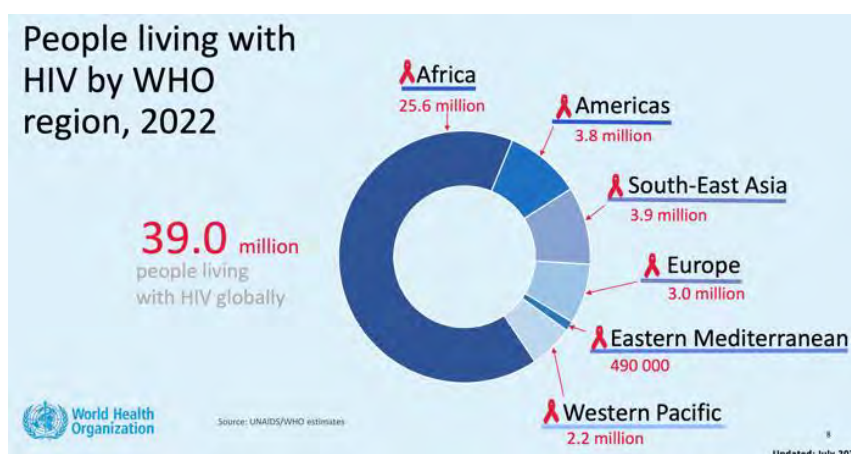


Figure 1.5

Projection numbers of HIV-positive persons of all ages in 2010, 2021 and 2022

Source: UNAIDS/WHO (2023)

Table 1.2

The numbers of PLHIV receiving antiretroviral medication and projection of antiretroviral drug coverage of all ages in 2010, 2021 and 2022

WHO region	PLHIV receiving antiretroviral therapy			Projection antiretroviral therapy coverage among PLHIV (%)		
	2010	2021	2022	2010	2021	2022
Global	7 700 000	28 100 000	29 800 000	24 (21-29)	73 (62-85)	82 (65-89)
African	5 100 000	19 800 000	20 900 000	24 (20-28)	78 (66-91)	82 (69-96)
• Eastern and Southern Africa	4 200 000	16 200 000	17 000 000	26 (21-30)	80 (67-94)	83 (70->98)
• Western and Central Africa	870 000	3 600 000	3 900 000	18 (15-20)	69(61-80)	76 (67-88)
Americas	1 100 000	2 500 000	2 700 000	40 (35-25)	68 (60-77)	71 (62-79)
South-East Asia	690 000	2 400 000	2 600 000	17 (15-20)	61 (53-71)	65 (57-76)
Europe	570 000	1 800 000	1 900 000	36 (31-40)	61 (54-68)	63 (55-70)
Eastern Mediterranean	18 000	110 000	130 000	8 (7-9)	25 (21-31)	27 (23-33)
Western Pacific	240 000	1 500 000	1 600 000	18 (13-22)	71 (53-88)	73 (55-91)

Source: UNAIDS/WHO (2023)

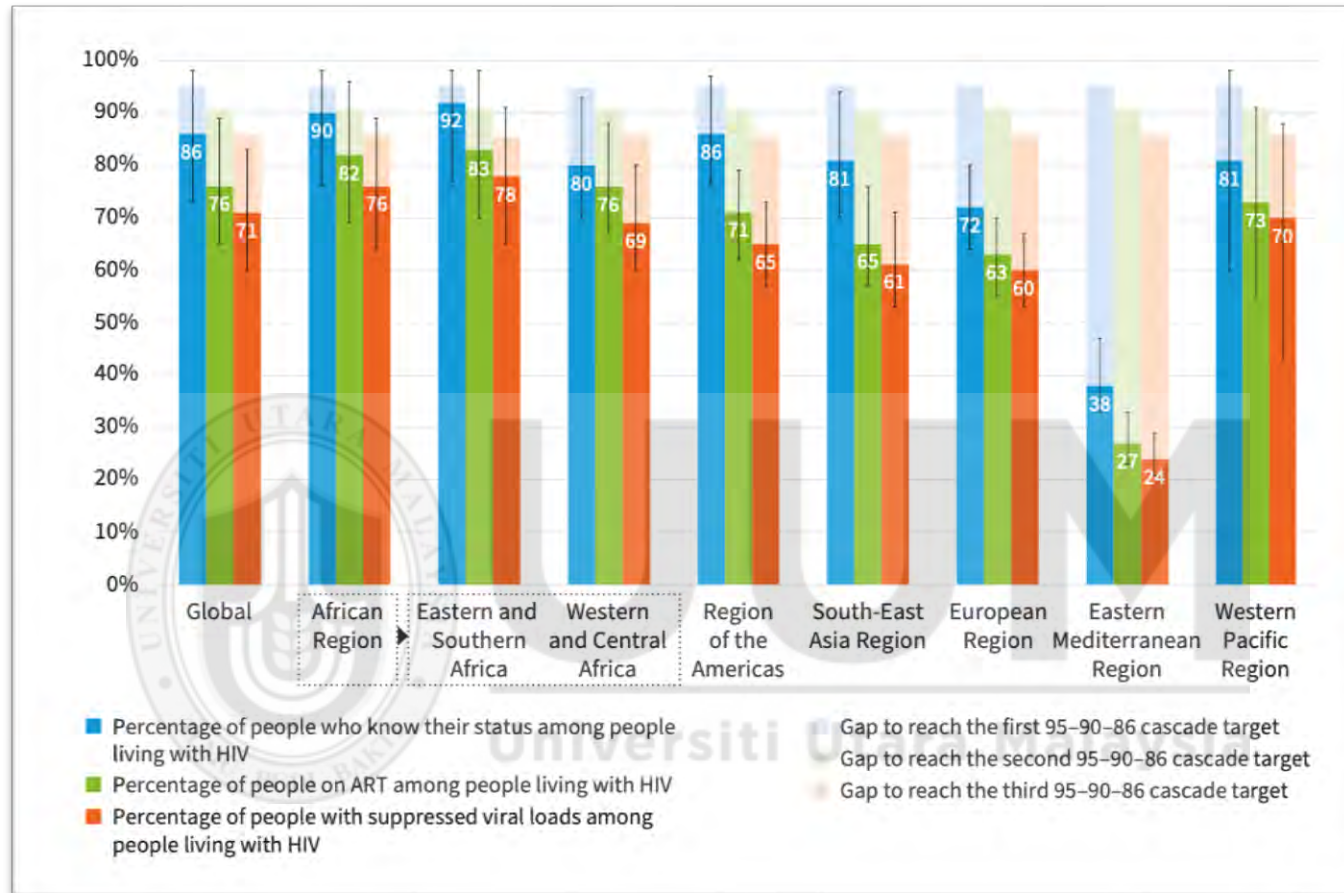


Figure 1.6

Global and regional progress towards satisfying HIV testing, antiretroviral treatment and viral load declined targets for PLHIV in 2022.

Source: UNAIDS/WHO (2023)

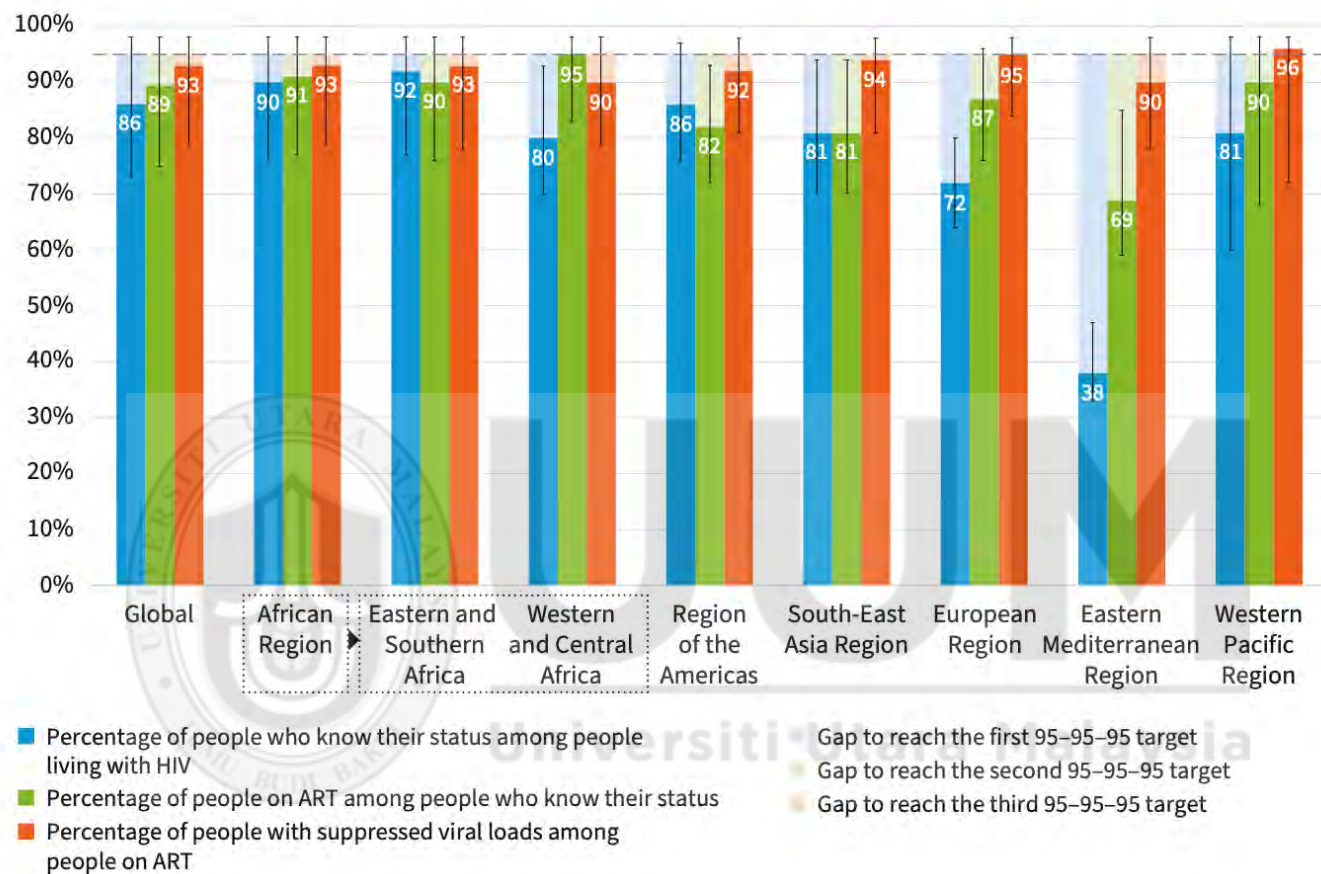


Figure 1.7

Performance regarding achieving the 95-95-95 goals worldwide and per WHO area in 2022

Source: UNAIDS/WHO (2023)

Table 1.3

The projection of individuals who obtained HIV and the rate of new HIV infection of all ages per 1000 healthy population in 2010, 2021 and 2022

WHO region	Individuals obtained HIV			New cases of HIV per 1000 healthy population (%)		
	2010	2021	2022	2010	2021	2022
Global	2 100 000	1 400 000	1 300 000	0.31	0.18	0.17
African	1 500 000	740 000	660 000	1.75	0.66	0.57
• Eastern and Southern Africa	1 100 000	540 000	480 000	3.37	1.22	1.07
• Western and Central Africa	350 000	200 000	180 000	0.69	0.29	0.26
Americas	160 000	160 000	160 000	0.18	0.16	0.16
South-East Asia	200 000	120 000	110 000	0.12	0.06	0.06
Europe	140 000	180 000	180 000	0.16	0.19	0.2
Eastern Mediterranean	28 000	52 000	56 000	0.5	0.07	0.07
Western Pacific	120 000	140 000	140 000	0.07	0.07	0.07

Source: UNAIDS/WHO (2023)

Table 1.4

The projection of numbers of HIV-linked mortality of all ages in 2010, 2021 and 2022

WHO region	Estimation of HIV-linked mortality		
	2010	2021	2022
Global	1 300 000 (970 000 – 1 800 000)	660 000 (500 000 – 920 000)	630 000 (480 000 – 880 000)
African	860 000 (680 000 – 1 200 000)	410 000 (320 000 – 570 000)	380 000 (300 000 – 540 000)
• Eastern and Southern Africa	590 000 (460 000 – 860 000)	250 000 (200 000 – 370 000)	240 000 (190 000 – 360 000)
• Western and Central Africa	590 000 (460 000 – 860 000)	150 000 (120 000 – 200 000)	140 000 (31 000 – 54 000)
Americas	66 000 (49 000 – 86 000)	43 000 (32 000 – 56 000)	41 000 (31 000 – 54 000)
South-East Asia	230 000 (170 000 – 320 000)	92 000 (67 000 – 130 000)	85 000 (62 000 – 120 000)
Europe	38 000 (29 000 – 47 000)	48 000 (37 000 – 60 000)	52 000 (40 000 – 65 000)
Eastern Mediterranean	12 000 (9 100 – 16 000)	19 000 (15 000 – 26 000)	20 000 (16 000 – 27 000)
Western Pacific	67 000 (40 000 – 110 000)	49 000 (29 000 – 77 000)	51 000 (30 000 – 80 000)

Source: UNAIDS/WHO (2023)

The transmission of HIV occurs primarily by conducting unsafe sexual activity without condoms, being given transfusions of blood or other blood-related products pathogenic with HIV, utilizing needles or syringes and other injecting machinery, being in contact with HIV via polluted surgical and other skin puncturing equipment, and through vertical transmission from HIV-positive mothers to their children (Chen Q. et. al., 2019; Kalinichenko S. et. al., 2022; Wang T. et. al., 2022). HIV is entirely avoidable due to modern technology development in providing several types of therapy for preventing transmission and the condition of infected individuals from the development of AIDS and opportunistic infection.

However, numerous individuals do not have a link to the knowledge and skills they need to avoid HIV. In certain circumstances, significant legal and societal barriers restrict people from receiving effective and holistic preventative programs and initiatives implemented either by the government or due to collaboration with non-government organisations (NGOs) (Mashora M. et. al., 2019; Stangl A. et. al., 2022).

Some populations are more predisposed to HIV infection such as males who have sex with men, individuals who inject drugs, persons in jails and other restricted environments, sexual professionals and customers and transgender populations (Garcia S. et. al., 2020; Resnick D. et. al., 2021). These are known as “key populations” because they are frequently disadvantaged in their communities and face significant challenges to obtaining HIV prevention and treatment as well as other health services. Other populations such as teenage females especially in Southern Africa may be extremely exposed to HIV transmission in certain circumstances.

As mentioned in Congressional Research Service (October 10, 2019), in AFR the HIV outbreak has its heart in Sub-Saharan Africa. Around 2018, the entire area was home to two-thirds of HIV patients and 66% of children traced as HIV-positive. In 2018, the area accounted for more than half of new infections. Insufficient screening availability among this demographic is a barrier to further decreasing HIV transmission rates as heterosexual intercourse is the most common way of transmission. In other factors is found that HIV screening rates are much lower among African men aged 25 to 34.

Otherwise, in Central Asia and Eastern Europe has been of significant increase in HIV infection. From 2010 to 2015, the elevated infection rate in Central Asia and Eastern Europe grew by 57% due to increasing injection drug use. In the region as a whole, just 36% of HIV-positive individuals receive antiretroviral therapy, highlighting a significant need for increased treatment and preventive efforts.

From Malaysia's perspective, the trend of HIV infection in 2000 is dominated by a population who utilise injection equipment, followed by heterosexual, vertical transmission and MSM. However, in 2010 the heterosexual population was equal to the injected drug population in contributing to HIV infection in Malaysia. Between 2010 and 2016, the trend of the mode of transmission of HIV in Malaysia dramatically changed while sharing injection equipment among drug users consistently decreased while the MSM traced. Until nowadays, MSM contributed to the increase of HIV infection in Malaysia in a consistent pattern. Otherwise, heterosexuality remains become second largest mode of transmission in Malaysia even though it consistently increased from 2010 to 2013. However, this population showed a decrease in contribution starting in 2014 until now even though inconsistent.

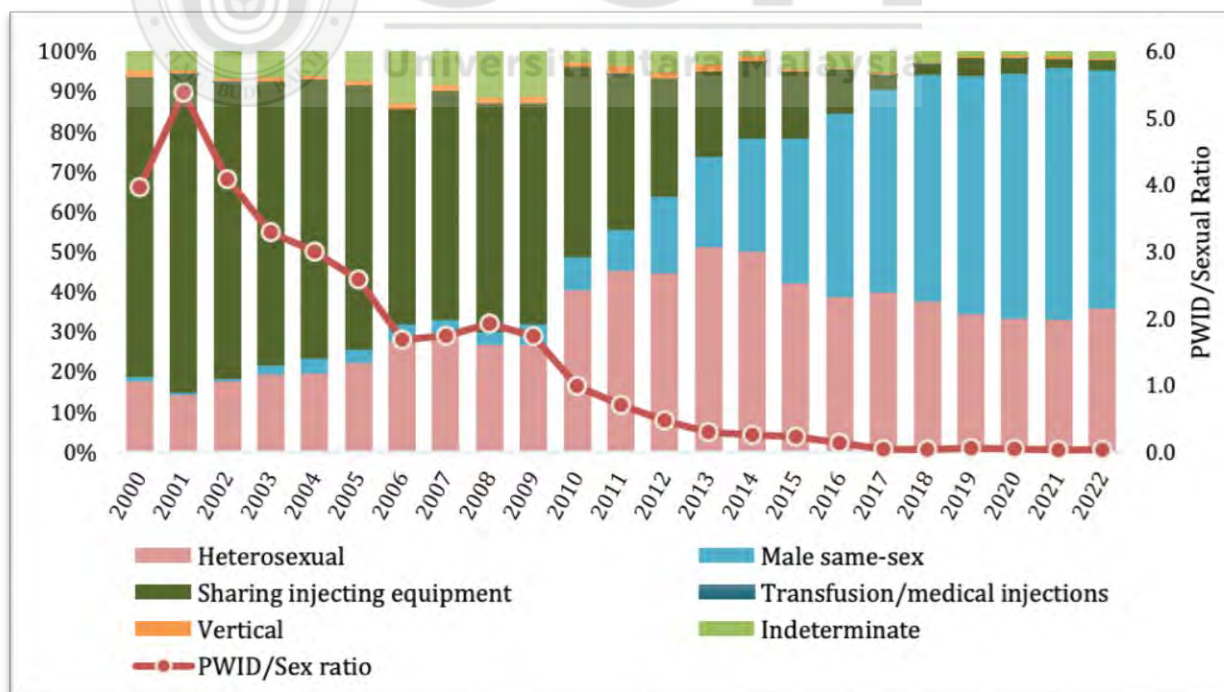


Figure 1.8
The mood of transmission trend of HIV infection in Malaysia from 2000 to 2022
 Source: UNAIDS/WHO (2023)

As shown in Figure 1.8 above, the HIV epidemic in Malaysia was contributed by intravenous drug users and was followed by sexual workers of females, transgender and MSM. Transmission through sexual activity has become the primary means of transmission in Malaysia during the past decade. Under Asian Epidemic Modelling (AEM), MSM is projected to be the primary population in Malaysia by 2030 (Figure 1.9).

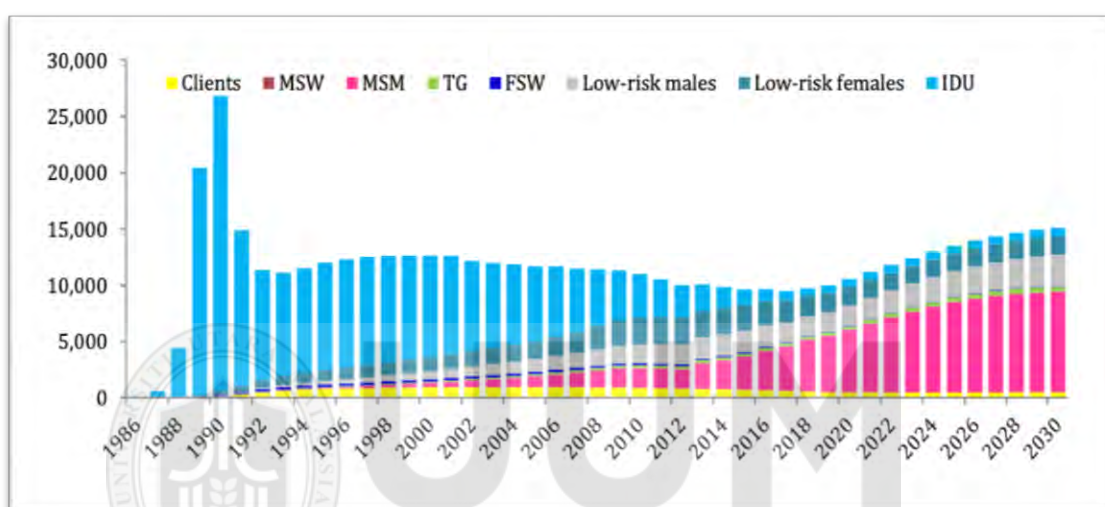


Figure 1.9

The projection of HIV infection trend by key population by the Asian Epidemic Modelling) 1986 – 2030

Source: Ministry of Health Malaysia (2023)

As shown in Figure 1.8 above, the projection by the AEM strictly mentions that the mode of transmission in Malaysia will be dominated by the MSM population until 2030. This is because the trend of HIV infection by mode of transmission in Malaysia by the MSM population consistently elevated from 2003 until last year (Figure 1.8). This situation became worse when the statistics from five years back demonstrated that the MSM population contributed to more than half of HIV infection in Malaysia.

Surprisingly, young men aged 20 to 29 reported that the biggest proportion of HIV cases distributed by age group in Malaysia accounted for 42% in 2022. At this age, most of them continue their study in higher education institutes either private or government for their future career and development. The second largest contribution population by age group in Malaysia is 30 to 39 (32%) and was followed by 40-49 (13%), more than 50 (9%), 13-19 (4%) and less than 13 (0%) (Figure 1.10).

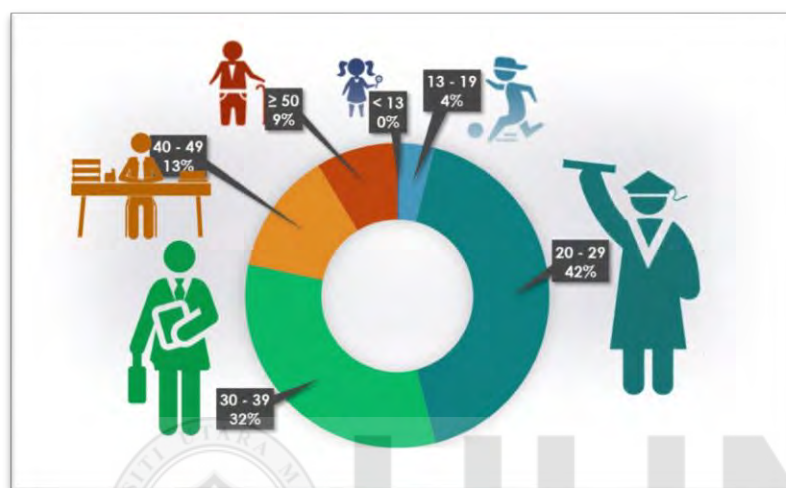


Figure 1.10
Age group distribution of reported HIV cases in Malaysia in 2022
 Source: Ministry of Health Malaysia (2023)

In general, the pre-existing institutional legal and cultural frameworks support normative beliefs that only heterosexual and opposite-sex romances are considered normal and appropriate in Malaysia (Zulkifli M. & Rashid R., 2019; Nawratek K. & Mehan A., 2020). Although they confront significant social rejection, the number of sexual minority groups especially gay or MSM in Malaysia is steadily rising (Kaur C. et. al., 2020; Ni Z. et. al., 2022).

In line with reports, the majority of sexual minority populations have lived in urban cities such as Kuala Lumpur, Johor Bharu, Georgetown and Alor Star after 18 years olds of age (Nawratek K. & Mehan A., 2020). It is projected that their number will grow and they will now reside in various parts of Malaysia. The annual “Seksualiti Merdeka” festival is a celebration of sexuality rights that was begun in 2008 to integrate the rights of lesbian, gay, bisexual and transgender (LGBT) people into Malaysia’s broader human rights framework. Even yet, they continue to face considerable opposition from Malaysians in their society and struggle to be recognized by them.

Based on the study by Ninam Shah M.F. & Mohamed Mustafa Q. (2020) a sum of 136 (90.67) participants who participated in their study of experiences of minority sexual groups in Malaysia met the criteria for inclusion. For race distribution, 117 Malays (86%), 8 Chinese (5.9%), 6 Indians (4.4%) and others (3.7%) made up the 136 participants. Only 14.7% of participants are from the East Peninsula, whereas 42.6% are from the West Peninsula of Malaysia. In terms of educational background, most of them are bachelor holders (52.2%) with ages ranging from 18 to 52 (27.32). Surprisingly, this study found that 86% of participants described themselves as Malay Muslim gay men. Due to a strong heteronormativity culture in Malaysia, Malay Muslim homosexual men may use silent behaviours to cope with these circumstances such as covering their sexual tendency in public and complying with community norms to prevent rejection from society (Hang-Kuen C., 2019; Zulkiffli M. & Rashid R., 2019).

Estimates from the survey by Statista Research Department (Jun 8, 2023), found that three per cent of participants described to be homosexual, gay or lesbian. Meanwhile, IPSOS has reported on their global survey for LGBT+ Pride in 2021 that the top 5 countries with the highest sexual attraction of respondents are dominated by Australia, Belgium and Great Britain are 9% declaring that they are attracted to the same sex, France and the Netherlands are 8%. Otherwise, India and Brazil are recorded in highest per cent is mostly attracted to the same sex accounting for 4% for both countries. From Malaysia’s perspective, 5% for attracted to the same sex and 3% for mostly attracted recorded in this survey (Figure 1.11).

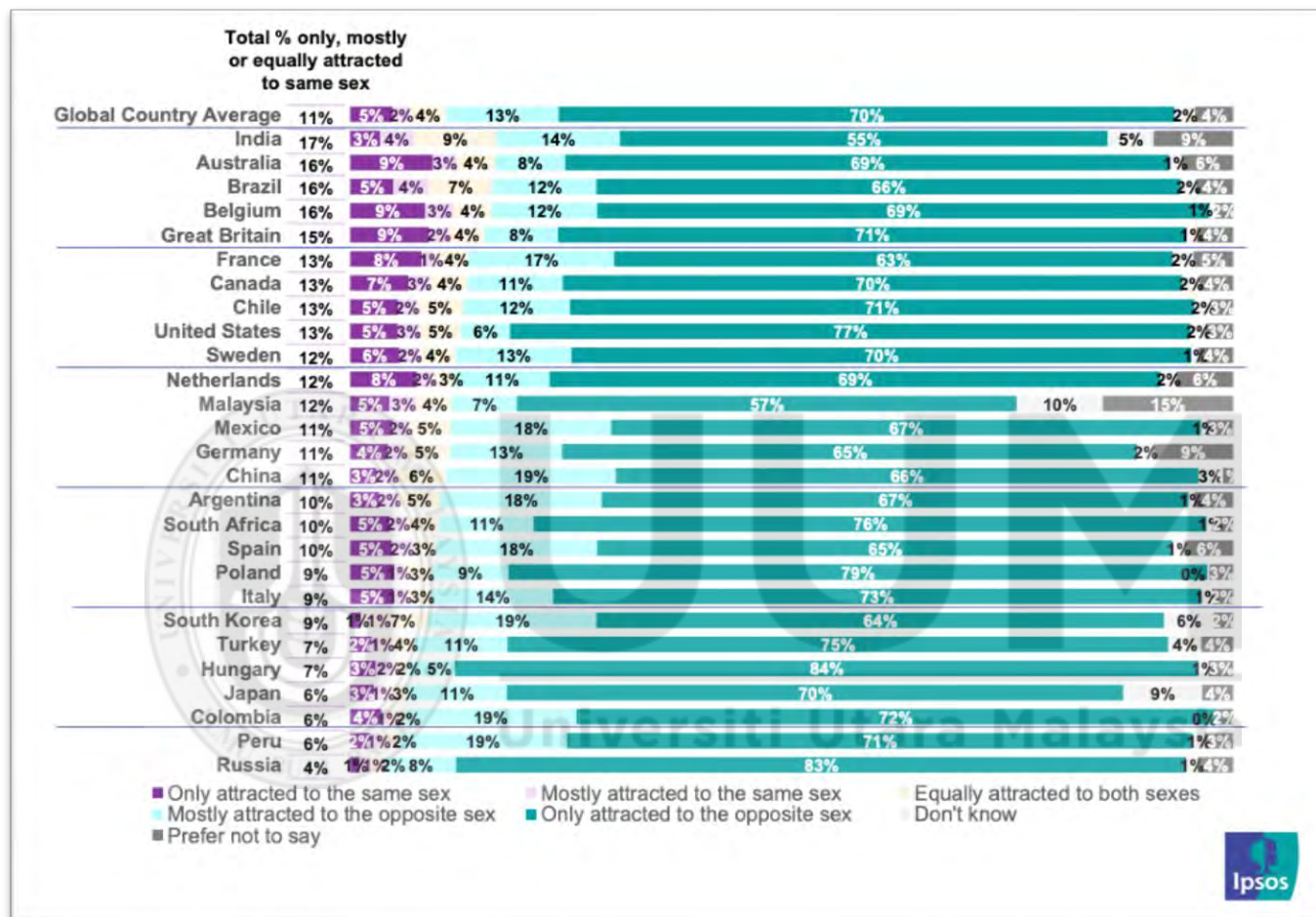


Figure 1.11
Sexual attraction among the LGBT population by country
 Source: IPSOS – Global Survey 2021

Furthermore, the IPSOS report also demonstrated that the total of not heterosexuals globally is 9%, of which 3% are categorised as lesbian, gay and homosexual, 4% bisexual, 1% pansexual and omnisexual, 1% asexual and 1% as another sex type of sexual orientation. The countries with the highest percentages of homosexuality dominated Brazil, Spain, Australia, Canada and the Netherlands are 5% accordingly. In Malaysia country, just recorded as much as 2% which declared as homosexual (Figure 1.12). However, the percentage of gays provided by IPSOS in Malaysia is slightly deference from the real situation due to the limitation on precipitation of this population in this survey. In addition, the new trend of HIV infection in Malaysia is linked to the MSM population as projected by AEM (Figure 1.9).



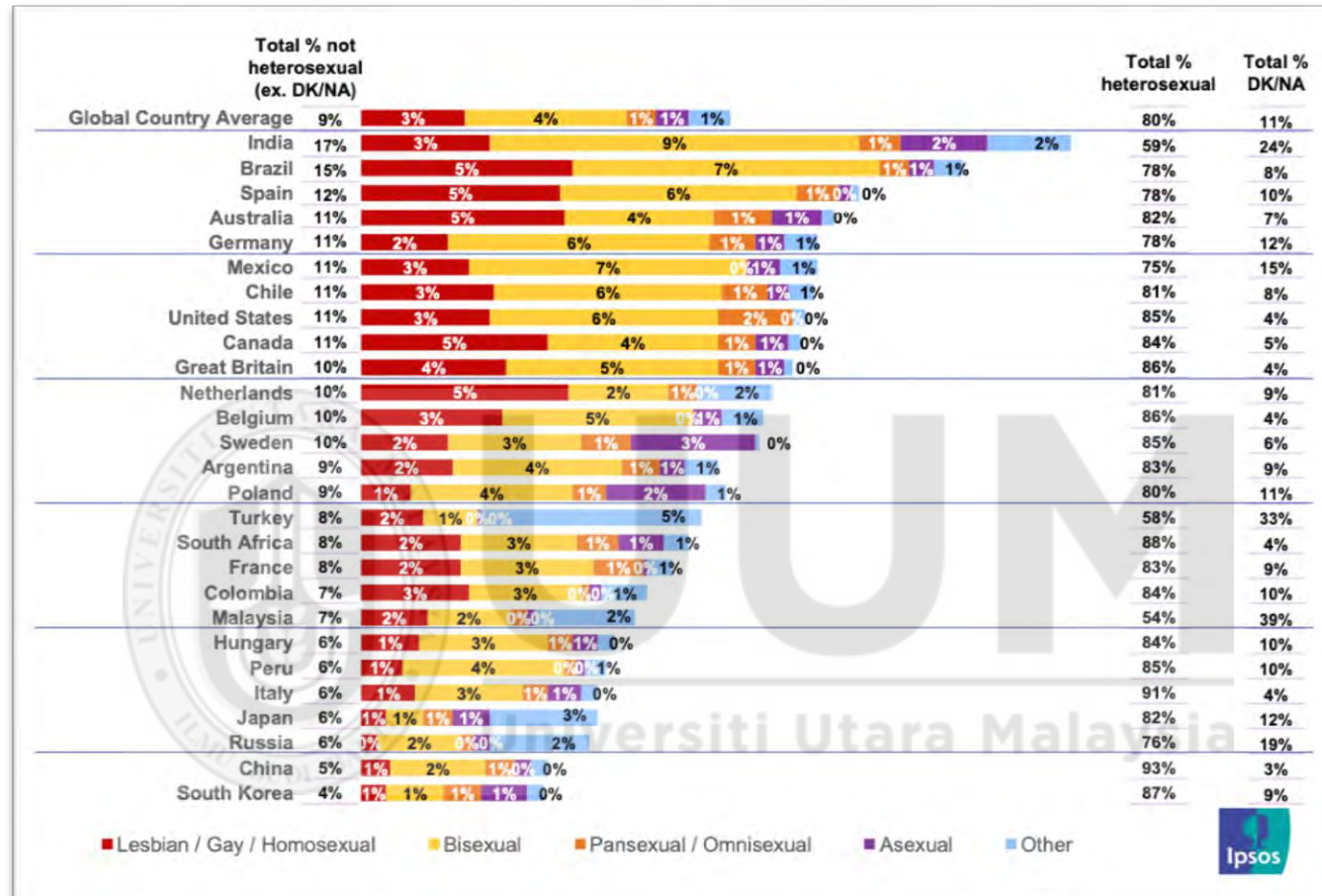


Figure 1.12
Sexual orientation among global population by country
 Source: IPSOS – Global Survey 2021

1.3 Problem Statement

There are 3 problem statements in this study which are HIV infection trends, mode of transmission dominated by MSM and the level of awareness among the population especially in the east coast of Malaysia region.

- i. HIV Infection Trends
- ii. Men Who Have Sex With Men (MSM)
- iii. HIV Awareness

1.4 Research Questions

There are three research questions in this study. Firstly, is to identify whether this population is aware of HIV. Secondly is what is their level of awareness in practising sexual activity, followed by how frequently HIV screening is done for them engaging in high-risk activities to ensure that they are free from any kind of virus.

1.4.1 To Identify Whether This Population Is Aware Of HIV

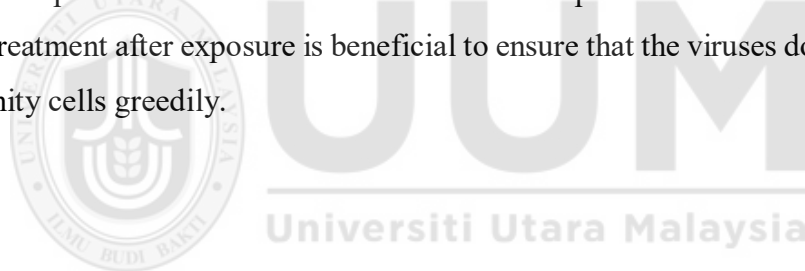
This study was addressed to identify the awareness level among high-risk populations about the mode of transmission of HIV. This awareness level is crucial because the higher level of awareness would promote good preventive action to ensure the new infection of HIV cases can be reduced. Moreover, a good awareness level among them should promote good treatment enhancement and reduce the risk of further opportunistic infection. In the line of MOH of Malaysia's target to achieve zero AIDS in 2030.

1.4.2 What Is Their Level Of Awareness In Practising Sexual Activity

This study also covered their awareness level once they engaged in sexual activity. This involves what kind of consideration their partners have while dealing with high-risk activity, especially among the MSM population. The specific criteria might be listed among them to ensure that activities do not affect their lives, especially infection to HIV or other STDs

1.4.3 How Frequently HIV Screening Is Done For Them Engaging In High-Risk Activities

In line with awareness and HIV, the most important is how frequently to perform screening to ensure their health status remains maintained and not transmitted to others if carrying the viruses. This indicator is essential because more frequent screening tests have been performed and are more secure to the exposure to the viruses. Meanwhile, early treatment after exposure is beneficial to ensure that the viruses do not destroy the immunity cells greedily.



1.5 Research Objectives

1.5.1 Research Objective 1

The goal is to measure the degree of HIV awareness in specific groups by doing extensive research in order to comprehend their knowledge, attitudes and behaviours on HIV transmission, preventive strategies, screening availability and treatments that exist.

1.5.2 Research Objective 2

To figure out the degree of understanding and consciousness among people participating in sexual conduct throughout an identified population, concentrate on their understanding, beliefs, and actions regarding sexual wellness habits, which includes secure sexuality, prevention use, STDs prevention, as well as accessibility to sexual medical care and education

1.5.3 Research Objective 3

To explore the prevalence and trends in screening for HIV among those engaged in dangerous behaviours within a particular group of people, with an aim of better understanding compliance to suggested screening recommendations, challenges to testing, risks in awareness and attitudes regarding HIV testing, in order to discover opportunities to improve preventive measures and testing initiatives.

1.6 Significance Of The Study

Basically, sexual awareness regarding HIV is a complicated topic with broad implications in terms of human beings, health-related institutions, policymakers as well as social well-being. High-risk populations such as homosexuals, people who have several sexual partners, and drug users confront specific challenges and limitations when it comes to sexual health. This study would show the significance and importance of exploring awareness levels among high-risk communities, emphasizing the influence on policymakers, healthcare facilities, social welfare, and individual lives.

In terms of policymakers, the government has a vital function in establishing wellness legislation and rules that impact both actions and outcomes. Studies of HIV awareness in high-risk communities yield useful insights that may be utilized in influencing evidence-based policy decisions. Authorities may develop interventions, allocate funds, and implement focused approaches to reduce the spread of STIs and other adverse health outcomes through comprehension of the specific behaviours, motivations, and socio-cultural factors that contribute to sexual risk behaviour. Improved availability of sexual health education, promotion of preventative measures, and reduction of discrimination linked to high-risk behaviours are examples of such programs.

The perspectives of public health organizations, especially the Ministry of Health Malaysia are on the forward-thinking side of combating low awareness levels amongst those close to the risk. Comprehensive research in this field allows these institutes to develop effective treatments and preventative programs. Insights on limitations to healthcare, the impact of stigma, and the role of social factors on sexual behaviour assist public health practitioners in developing culturally sensitive methods which engage with high-risk communities. These kinds of therapies might include routine testing and counselling, harm reduction techniques, and personalized support networks that target these individuals' specific needs.

The exploration of sexual risk behaviour goes beyond individual activities to consider how they affect the larger community system. High-risk groups are frequently subjected to social stigma, prejudice, and isolation, all of which can have a severe impact on their psychological health. A comprehensive study enables an improved knowledge of social mechanisms that encourage risky behaviour and prevent people from seeking treatment. Overcoming these social barriers allows communities to promote inclusion, decrease stigma, and establish safe environments that promote healthy sexual activities and a sense of belonging.

Moreover, the individual experience is crucial to understanding the level of awareness amongst high-risk populations. An in-depth study explores the intentions, attitudes toward risk, and decision-making mechanisms of people who engage in high-risk behaviours. Individuals may become equipped with information to make educated decisions regarding their sexual health by identifying these aspects. Individuals may be given the skills they must utilize to improve their health and decrease risk through research-driven outreach efforts, educational programs, and support networks as well.

The scientific study of HIV awareness levels in high-risk populations also promotes the advancement of research approaches and technology. Innovative methods for gathering reliable insights into these behaviours, such as online surveys, social media analysis, and data-driven treatments are emerging. This progress improves the quality and relevance of research, resulting in more specific solutions to dealing with HIV cases. Furthermore, collaboration among researchers, public health experts, and governments results in a holistic strategy that capitalizes on collective expertise.

The analysis of HIV awareness in high-risk groups has significant consequences for authorities, medical institutions, the welfare of society, and individual well-being. Policies and interventions can be modified to meet these populations' particular needs and problems based on detailed research. Societies may support healthy sexual practices, improve psychological health and eventually contribute to a more inclusive and equitable society by emphasizing education, availability of medical care, discrimination, and integration into society.

1.7 Scope Of The Study

As mentioned earlier, the exploration of level of awareness in high-risk populations is complex and has several aspects and consequences. This sub-topic would explore the broad breadth of researching sexually concern in high-risk communities, emphasizing its importance in understanding behaviour patterns, impacting public health initiatives, addressing societal dynamics, and increasing individual well-being.

The first and most important component of investigating sexual risk behaviour in high-risk populations is learning about the trends and variations that motivate such conduct. The reasons, process of decision-making, and socioeconomic factors which inspire individuals to participate in high-risk sexual behaviour are investigated by researchers. This grasp is critical for developing successful treatments that are appealing to the target audiences, such as giving targeted information and assistance to reduce risks and encourage healthier habits.

The goal of this exploration includes educating, developing, and advising on public health programs that are intended for high-risk groups and increase their awareness indirectly. Research findings can be used to establish preventative and intervention programs targeted at minimizing the spread of STD cases as well as negative health impacts. Public health experts may develop focused campaigns, manage resources efficiently, and form alliances to optimize the impact of their efforts by identifying risk factors, difficulties with healthcare access, and patterns of decision-making as well.

The research investigations of the level of awareness among high-risk populations give insight into the complex interaction of social factors within these societies. The study of how social norms, stigma, prejudice, and cultural variables impact an individual judgment. Researchers, politicians, and community leaders may work together to challenge harmful societal norms, decrease stigma, and promote supportive settings that foster safer sexual behaviours as well as educated decision-making through recognizing these processes.

The intent of exploring HIV awareness among high-risk communities is to improve individual well-being. Researchers can create therapies that additionally lower health risks but also improve psychological and emotional health by better understanding the particular difficulties and vulnerabilities experienced by high-risk individuals. Access to correct data, medical services, and supporting resources enables individuals to make educated decisions, encouraging an attitude of responsibility and self-care that leads to a sense of general health.

The study of risky sexual conduct in high-risk populations offers an existing larger area of intellectual and academic advancement. Innovative procedures, data-gathering techniques, and holistic methods arise as research advances. This ever-expanding body of knowledge informs subjects such as sociology, psychological sciences, public health, and the development of policies. Furthermore, it inspires discussions that question existing conventions, stimulating constructive debate and opening the way for new perspectives and discoveries.

Finally, this study has a comprehensive achievement embracing numerous dimensions such as decision-making patterns, public health initiatives, social dynamics, individual well-being, and scientific advances. This holistic strategy is essential for driving well-informed choices, changing policies, cultivating supportive ecosystems, and eventually resulting in healthier, more inclusive civilizations. As research in this field advances, it emphasizes the significance of an interdisciplinary approach to addressing the complex difficulties of sexual HIV awareness among high-risk individuals mostly among the MSM population and young men.

1.8 Definition Of The Key Terms

Strong knowledge and awareness are essential foundations for reducing the spreading of new cases of HIV. For that purpose, in this sub-section, the researcher will explain and clarify numerous important concepts related to this study

No.	Terminology	Elaboration
1	Human Immunodeficiency Virus (HIV)	HIV is a virus that damages the immune system, making it less capable of fighting infections and illnesses. If HIV is not treated, it can lead to AIDS. HIV is most commonly spread through unprotected sexual contact, needle sharing, or from mother to child during delivery or nursing.
2	Acquired Immuno-deficiency Syndrome (AIDS)	AIDS is the most progressed phase of HIV infection with substantial immune system destruction. Individuals living with AIDS are predisposed to opportunistic infections and certain malignancies. Early detection and medical attention can aid in the management of HIV progression and the emergence of AIDS-related comorbidities.
3	Sexual Transmitted Infections (STIs) or Sexual Transmitted Diseases (STDs)	The term STI and STD is interchangeable which are infections that may be spread via sexual activities such as vaginal, anal, and oral sex. They can be caused by bacteria, viruses, or parasites and can lead to a variety of health problems if left untreated. An example of common STIs are chlamydia, gonorrhoea, syphilis, and human papillomavirus (HPV).

No.	Terminology	Elaboration
4	People Living with HIV (PLHIV)	Individuals who were officially diagnosed with HIV and actively deal with their illness via medical treatment, care, and support are referred to as PLHIV. This concept highlights the humanity and resilience of persons impacted by HIV, supporting a person-centred approach in HIV talks.
5	Lesbian, Gay, Bisexual, Transgender and Queer (LGBTQ)	This abbreviation refers to types of personal sexual orientation. A “Lesbian” is described as a woman who is romantically, emotionally or sexually attracted to other women. While “Gay” refer to a man who has significant attraction to other men either emotionally, romantically or sexually. The term “Bisexual” refers to the attraction of some person emotionally, sexually or romantically to more than one sex or gender identity although not necessarily at the same time, in the same way or to the same intensity. Meanwhile, “Transgender” is a general description of those whose gender identification or expression varies from cultural norms based on the sex given to them at birth. Becoming transgender does not indicate a particular sexual preference which might be straight, gay, lesbian or bisexual. “Queer” is a word commonly used to indicate varying identities and attractions.

No.	Terminology	Elaboration
6	Men Sex with Men (MSM)	Homosexuals are people who are attracted to and have sexual relationships or romantic with others of the same sex. The term Men who have Sex with Men (MSM) is frequently used in scientific and public health contexts to refer to a broader range of sexual practices, independent of self-identified sexual orientation.

1.9 Organization Of The Study

The research is organized into five (5) chapters. In chapter one, the general introduction of the study is written up which consists of the background of the study, problem statement, research questions, research objectives, significance of the study, scope of the study, definition of key terms, and organization of the study. Chapter two discusses on literature review which is theoretical and empirical. The researcher would be further with chapter three with research methodology, which includes the framework of the study, model specification and hypothesis, design of the study, measurements instrumental of variables, sampling, collection of the data procedure, and techniques of data analysis. Chapter four begins with a discussion of the findings and continues with chapter five as a conclusion and suggestion

1.10 Conclusion

Finally, the first chapter of this study gives fundamental knowledge and highlights the context in which this study is located. The chapter provided the direction of the study and will be continued further in the next chapter.

CHAPTER 2

2.1 Introduction

This chapter begins by comprehensively discussing on reviewing on HIV and AIDS. After that, it is followed by reviewing on MSM activities. At the end of this chapter would be closed with simple conclusion.

2.2 Review on HIV and AIDS

Human Immuno-deficiency virus (HIV) is a subgroup of retroviruses (Sood P. & Bhandari C, 2019). Lentivirus is a family of retroviruses that infect humans and other animal species (Kambol R. et. al., 2022) which trigger to development of chronic and fatal illnesses with extended incubation periods (Lu Y. & Essex M., 2020; Marchand C. et. al., 2020). This type of virus found worldwide including in monkeys, cows, goats, horses, cats and sheep as well as other species (Michiels R. et.al., 2021). Lentiviruses may integrate significant quantities of viral complementary deoxyribonucleic acid (DNA) into the host cell's DNA and easily attack non-dividing cells, resulting in one of the most efficient ways of gene transfer. They may grow endogenous by integrating their genetic material into the host's germline genome, resulting in the virus being passed down by the host's future generations.

They eventually lead to acquired immunodeficiency syndrome (AIDS) which is a situation in which the immune system gradually fails and triggers life-threatening opportunistic infections and malignancies to grow (Singh M., 2021). Without proper and consistent treatment, the usual survival duration after exposure to HIV viruses has been projected to be 9 to 11 years based on the HIV strain.

HIV is primarily a sexually transmitted infection that is contracted by contact with or transmission of pre-ejaculate, sperm, blood and vaginal secretions (Basavarajaiah D. & Murthy B., 2019). Non-sexual transmission can happen when a woman is pregnant, shortly after she gives birth and her baby comes into contact with her blood or vaginal fluid, or through breast milk. HIV is prevalent in these body fluids as both free virus particles and viruses within immune cells that have been infected. Studies have indicated that if one person in a same-sex relationship has a persistently undetectable viral load, then condom-free sexual activity cannot spread HIV (Gray J. et. al., 2021).

Basically, the HIV-infected person can't be cured but can be treated to enhance their productivity of the life (Ventura J., 2020). The comprehensive treatment would allow them to run their life and look like normal individuals and not spread to others. In modern medical technology nowadays, antiretroviral drugs assist in stopping the replication of viruses in the human body (Aquaro S. et. al., 2020). By stopping the activity of the viruses, it allows the immunity system to repair itself and prevent further damage. For that purpose, commonly a combination of antiretroviral drugs is used in treating patients to enhance the effectiveness of treatment (Weichseldorfer M. et. al., 2021). This precautionary action is taken because the HIV virus is the smartest and quickly adapts and triggers treatment resistance.

There are six types of antiretroviral group agents available in Malaysia, which are nucleoside reverse transcriptase inhibitors (NRTI), non-nucleoside reverse transcriptase inhibitors (NNRTI), protease inhibitors (PI), integrase inhibitors, CCR5 antagonist and fusion inhibitor (Ministry of Health Malaysia, 2011). However, the type of HIV medications globally might be slightly vary due to various factors such as economic stability, politics and many more. Despite the limitation on antiretroviral medication in Malaysia, the Ministry of Health Malaysia is committed to enhancing HIV treatment with the implementation of many initiatives for the sake of Malaysia's health.

Due to the latest updated guidelines of HIV treatment, there are a few factors that must be considered before starting the treatment. The most important factors in initiating treatment in HIV patients are willingness to start the treatment and adherence strictly to the treatment and follow-up (Mukose A. et. al., 2021). This ensures that no medical resistance to the drugs and the cost-effectiveness due to channelling the medication for the right person. Commonly, the treatment would be started with the first line of HIV drugs if tolerance and no severe side effects. The Malaysian government covers the whole cost of first-line HIV medications, which are provided at government and semi-government facilities.

The goal of early treatment of HIV-positive patients is to reduce HIV-related mortality and morbidity (Boniatti M. et. al., 2020). Besides, to improve the quality and productivity of life, increases lifespan, and preserves and strengthens immunologic function (Kurniawati L. et. al., 2021). Otherwise, early and consistent treatment can be maximised and durably suppress the viral load, prevent transmission of HIV viruses to a partner or unborn child and resistance to HIV medications (Dorward J. et. al., 2019). Three aspects to be monitored for optimised treatment outcomes are reducing clinically the number and frequency of opportunistic infections, gradual and steady elevation of immunological counts and virologically decrease especially after six months of treatments.

Generally, the level of awareness is crucial in combatting the pandemic of HIV. It can break barriers to ensure that high-risk populations can reach proper knowledge and management to end the pandemic. Unfortunately, the level of awareness is variable due to various factors, for instance, the level of education, socioeconomic, geography, religion and many more.

According to Srivastava S., Chauhan S., Patel R. et. al. (2021) in their study about awareness of HIV/AIDS among adolescents where drawn from Understanding the lives of Adolescents and young adults (UDAYA) in Bihar and Uttar Pradesh, found that the awareness is shown an increase over the period. The study found that almost three-fifths (59.9%) of the males and two-fifths (39.1%) of the girls were familiar with HIV. Adolescents who were exposed to mass media and had connectivity to the internet were also much more aware of HIV.

A full complement of 710 MSM volunteers were chosen, including 36.1% from rural locations. The total prevalence of HIV was 16.65 and it was significantly lower among MSM staying in rural regions (3.9%) compared to urban locations (24.2%). 61.1% of participants had not used a condom for male sexual conduct in the previous 6 months (86.7% in rural regions, 46.7% in urban cities). The socioeconomic demographic and behavioural features of rural and urban MSM differed significantly. Therefore, this study shows that higher risk-taking was frequently used and testing for HIV rates remained inadequate among MSM located in rural regions as compared to urban areas in Zhejiang.

However, in Asia and the Pacific, young individuals between the ages of 15 to 24 represent 37% of all new HIV infections (UNAIDS, 2017). According to data, young people from significant populations are more likely to get HIV than people from those who are older. For instance, in Thailand, the HIV prevalence among young homosexual men and other MSM is 11% compared to 8.3% among gay men to other MSM aged 25 and above. According to behavioural research conducted in eight nations, the majority of South-East Asian countries lack comprehensive HIV information.

Otherwise, the study conducted among students in a public university in Malaysia on knowledge, attitudes, risk behaviour and preventive practices on sexually transmitted diseases found that the majority (75.1%) of 1327 total university students had sufficient knowledge of STDs (Sham F., Yaakub S., Fawati F.N. et. al., 2020). However, almost half of the respondents in this study had unacceptable preventive practices for STDs and this slightly affected to raising in STD incidence in Malaysia. This study also highlighted some misconceptions about STDs among participants which are considerably dangerous especially when spread to the community.

2.3 Review on MSM activities

This section will begin with review on MSM activities which are common practiced among this population. In line of that, this activities expose them toward HIV infection.

2.3.1 Condomless Penile-Anal Sex

The terminology of bareback sex or barebacking is used which is reflected in activities of having penetrative sex without using any protective equipment such as a condom known as condomless penile-anal penetrative sex (Thai M. & Barlow F., 2019; Garcia-Iglesias J. & Ledin C., 2021). On the other note, this terminology is used to refer to penetrative MSM activities (Thai M. & Barlow F., 2019; Martins A. et.al., 2021). It is also used for the LGBTQ+ community to illustrate that activities are using the back side or riding a horse without a saddle (Aldridge C., 2020).

Without protective equipment during sexual intercourse, they can have a higher chance of getting any diseases related to those activities such as HIV, syphilis, gonorrhoea and many more (Pathak A. & Sawal A., 2021; Raccagni A. et. al., 2022). The Centre for Disease Control and Prevention of the United Kingdom (2018) reported that over 80% of new HIV cases are among the MSM community. Most of the new cases of HIV (appropriately 86%) are men who were involved in gay and bisexual activity.

The most common factor that triggers the spreading of HIV and AIDS is condom-less penile-anal sex behaviour (Habel M. et. al., 2019; Khumaidi K. & Sri Y., 2019; Girardi E., 2020). Many studies stated that behaviour or sexual attitude is a high-risk sexual intercourse activity for HIV transmission either heterosexual or bisexual practices (Sarno E., Macapagal K. & Newcomb M., 2021; Omorodion F. et. al., 2021). The data regarding condomless penile-anal sex activities is limited especially among MSM groups. The demographic factor also plays a crucial role in some regions, such as Victoria in Australia, where sex workers is a legal and regulated industry.

Chow E.P. et al. (2014) mentioned that sex workers in Victoria are protected by the Sex Work Act 1994 and the Sex Work Regulations 2016 which make it compulsory for them to use condoms during any sexual activities with clients and within 3 months periodically performing medical screening is mandatory. The study conducted by Evelyn M.T. et. al. (2021) found that 30.4% or 52 of 171 participants from men had sex with women (MSW) who had condomless penile-anal sex with a client and 59.6% or 102 participants from 171 had condomless penile-oral sex activities. Globally, the number of transgender women is significantly increasing dramatically. A transgender woman is a man who is assigned as male at birth but changes their gender identity to female, transgender or transsexual woman Nemoto T. et. al.; 2012, Poteat T. et. al.; 2015).

Roughly, public health studies on previous studies mostly focus on how often penile-anal sex activities are conducted and with whom, women and men for tracing the risk behaviour for STI and HIV infections. Mostly, gay sexual activity is significantly linked to penile-anal sex practices with many partners. However, the specific studies about using condoms or condomless are not discussed openly but potentially occur. Phang C.W. et al (2008) conducted a study among the MSM population in Melbourne Australia was found that 83 men or 41.5% reported having penile-anal intercourse which insertive anal intercourse in 68 men and receptive in 39 men (19.5%). However, 12 of insertive condomless penile-anal intercourse are without ejaculation and 4 of them with ejaculation.

Similarly, 5 men practice condomless receptive anal intercourse without ejaculation and 3 men with ejaculation. This study also focuses on substantial condomless anal sex which consists of nudging, dipping, rimming, docking, anal fingering, sharing of sex toys, masturbation, and sadomasochism. However, these activities since most that do not involve ejaculation and penile-anal penetrative intimation still at high risk for sexual infection, which 34% was diagnosed with anal gonorrhoea and 36% of anal chlamydia reported among men who did not report unprotective anal intercourse (Jin F. et al, 2007).

Nyitray A. et al (2011) found that condomless penile-anal sex is significantly associated with multiple anal Human Papillomavirus (HPV) infections among the MSM population and it is the primary cause of anal cancer. The study reported that 34.7% of the MSM and 4.0% of the men who have sex with women (MSW) has presented with multiple HPV infections in the anal canal. The results of this study also demonstrated that more than 2 male anal sex partners in the past 3 months and condomless were associated with traces of multiple anal HPV infections among the MSM population. Parallely, using condoms during penile-anal sexual activity among the MSM, even having more partners may reduce HPV infection in the anal canal.

Cara E.R. et al (2016) conducted the study among the MSM population in the United States (US) where 41 men (17%) of the participants knew their HIV status was positive and the rest was negative. During the collection of data, this study reported that 212 men or 90% of them practice condomless penile-anal sex activity. At the same time, other behaviours are applied such as oral sex (233 or 99%), Anal fingering (196 or 83%), insertive sex toys (152 or 62%), fisting (43 or 14%), sounding or catheter (20 or 9%) and enema (116 or 49%). This study also discovered that the majority of respondents reported having oral sex (99%) and 90% of them practised condomless penile-anal sex in their lifetime. Surprisingly, two-thirds of men or an estimated 68% reported being involved in group sex and 58% reported having sex with a partner whose name you did not know.

Mayer K.H. (2014) emphasised that many factors contribute to the HIV spread among the MSM. Anal intercourse is one of that and it increases susceptibility to HIV and other sexually transmitted disease. The roles of versatility which is an individual that can play both roles of receptive and insertive at the same time would become more efficient in transmitting HIV to new partners which took that virus from an insertive partner that readily infected to a new receptive partner. Moreover, some HIV carriers do not declare the health status of their partners and some infected men would be married.

However, the study on factors associated with condomless penile-anal sex with internal ejaculation (CLPASE) among the MSM community in Asia has been conducted via internet sampling (Lim S.H. et al; 2012). Surprisingly, this study found that 85.8% practised anal sex with their partner either a regular or casual partner. The data shows that 77.8% of participants are insertive anal intercourse and the prevalence of condomless penile-anal intercourse with internal ejaculation is 46.8%. Otherwise, receptive anal intercourse is 81.8% and the prevalence of condomless penile-anal sex with internal ejaculation is 47.5%. This study also states that the highest prevalence of condomless penile-anal sex is from Indonesia (59.8%), the Philippines (58.9%) and the lowest is from Japan (28.3%).

Unfortunately, this study also found that the highest number of participants is from China (2443) followed by Singapore (1019), Malaysia (835), Taiwan (800), Hong Kong (702), Thailand (517), Japan (286), Indonesia (266), Philippines (163) and others (280). Within this data, the top 5 countries with condomless penile-anal sex with internal ejaculation are Indonesia (59.8%), the Philippines (58.9%), China (52.3%), Malaysia (51.9%) and Taiwan (50.4%). While the statistic of condomless penile-anal sex without internal ejaculation (No-CLPASE) remains high and is dominated by Japan (71.7%), Hong Kong (61.0%), Singapore (60.3%), Thailand (58.0%), Taiwan (49.6%) and Malaysia (48.1%). This study also disclosure about the sexual orientation which most of the participants are homosexual (n=6,300, No-CLPASE = 52.9%, CLPASE = 47.1%), heterosexual (n=959, No-CLPASE = 49.6%, CLPASE = 50.4%) and Bisexual (n=52, No-CLPASE = 59.6%, CLPASE = 40.4%). Unfortunately, 2,403 men were never tested for HIV and 2,746 participants were unaware of their HIV status. However, this study can be used as a benchmark for sexual behaviour among the MSM community in Asia.

The other study about the prevalence and linked factors of condomless penile-anal sex among transgender community in China found that 26.8% of respondents had unprotective receptive anal sex with any male partners while 88.6% had intimation activity via anal penetration with non-commercial male sex partners (Chai Y. et al; 2016). In addition, this study also found that the feminising of transgender significantly increases the risk of condomless penile-anal activities. Therefore, more significant studies are needed for further intervention plans to ensure that activities among this population especially would be controlled.

Based on the Ministry of Health Malaysia (2017) an integrated biological and behavioural surveillance survey found that condom use among transgender population remained consistently lower and the majority of them reported having a male permanent partner within three years of the survey (2012- 98.1%, 2014- 96.4% and 2017 – 99.1%). However. The survey among the MSM community has reported that the median age of those who involve in an anal penetrative sex debut was 17 years while almost three-quarters of the participants had anal intercourse in the last one month (71.9%).

2.3.2 Multiple Sexual Partners

According to Jennifer L. (February 9, 2023) on the Medical News Today website define that multiple sexual partners are a condition while an individual has more than one sexual partner over some time. Meanwhile, James D.S. (August 1, 2009) simplified that multiple sexual partners can be related to overlapping and concurrent partnerships for intimation activities. This situation would occur in both genders, either men or women. Therefore, multiple sexual partners is a term used to describe individual behaviour in sexual activities chosen for more than one partner to reach satisfaction of sexual demands. This behaviour significantly increases the risk of HIV infection which is exposure to unprotected intercourse. This is supported by a few studies which found that having multiple sexual partners, especially among the homosexual population tends to unsafe sex activities which is exposure to infected with HIV and STD.

Based on the National Survey of Family Growth of the United States mentions that the median number of sexual partners was 4.3 for women and 6.3 for men. Statistics also provide the data that 11.2% of males and 17.7% of women in the United States had one sexual partner in the survey from 2015 until 2019. Otherwise, 22.3% of males and 29.2% of females had 2 to 4 sexual partners. While the data shows a remaining increase in those who have 5 to 9 sexual partners which is 28.6% for females and 25.8% for males. As much as 11.6% of females and 12.5% of males had 10 to 14 partners at certain times. However, the males are higher (28.3%) in the category of having 15 or more sexual partners compared to the women (12.9%). The online survey in 2021 has been conducted among 1987 adults aged 18 to 70 years for looked at patterns of sexual behaviour and found that the mean number of lifetime sexual partners was 8.5 (oral sex), 11.4 (vaginal sex) and 2.1 (anal sex). Surprisingly when the researchers found that 2.4% of respondents reported having more than 50 oral sex partners, 3.9% had more than 50 vaginal sex partners and 3.6% had more than 15 anal sex partners.

In terms of homosexuality, multiple sexual partners are reflected in men who have more than one partner at a certain time frame to achieve their sexual satisfaction. Many factors contributed to unsafe behaviours such as self-esteem, being raped or sexually abused, social support, nights out for seeking sexual partners, and many more. The study conducted by Chaipin E. et. al. (2021) about the factors linked to having multiple sexual partners among the MSM in northern Thailand found that the average of sexual partners in the past 12 months is 3. Online app dating was the strongest predictor of having more sexual partners among MSM university students in Thailand (AOR=13.2).

Yang Z. et. al. (2022), found that 18.2% of male college students in Zhejiang with sexual behaviour had multiple sexual partners. As many as 2078 (85%) of respondents had reported a single sexual partner group with heterosexual orientation while 368 (15%) have reported having multiple sexual partner groups. However, for those who considered homosexual, the number of participants with multiple sexual partner groups is higher than single sexual partner groups which are 117 (53.4%) and 102 (46.6%) respectively. This study also suggested that a high degree of openness towards sexual attitudes such as commercial sexual behaviours and one-night stands is a risk factor for male college students' exposure to multiple sexual partners' behaviour.

Moreover, the study about multiple sexual partners also conducted by Wartisa F. et al. (2021) among the MSM community in Bukit Tinggi City Malaysia found that 24 (40%) of respondents started their sexual activity less than 16 years of age, while other 60% more than 16 years. Mostly, young people who have sexual intercourse with older sexual partners tend to risk HIV infection. This is because about 9.6% of MSM have anal sex with their partners. Meanwhile, more than half of respondents (55%) have been reported to have less than 10 lifetime partners of sexual while the other 45% (27) have more than 10. Therefore, this study shows the significance of the relationship between MSM and multiple partners while it is supported when 45% of them tend to have more than 10 partners. This situation was significantly associated with HIV incidents, especially among this population and young community.

Based on a survey conducted by Ministry of Health Malaysia (2017) reported that 85.7% of respondents used condoms using anal penetrative sex in general. Otherwise, as much as 65.4% of respondents shared that they had used a condom during the last sex and the frequency of consistent condom use was great with paid partners (53%) and poor with casual partners (37.6%). The median of different men for this activity is 2. This data shows that most MSM in Malaysia especially still practice multiple sex partners with condomless penile-anal intercourse (Ngadiman S. et. al., 2015).

2.3.3 Homosexual Activity

Cambridge Dictionary website (2024) defines homosexual as a sexual interest or attraction to the same gender either men to men or women to women. Indirectly, the term gay refers to men who are attracted to men while lesbian is reflected in women-to-women intimation relationships. On the other hand, Meriam Webster (2024) states that homosexuality is linked to sexual or romantic attraction to an individual of the same sex. Therefore, be simplified as an abnormal feeling and attraction which is contrary to the reality of normal norms of human beings.

Based on an IPSOS survey in 2021 across 27 countries worldwide about LGBT+ emerging trends. In gender identity and sexual attraction, mostly younger adults are equally attracted to both sexes. This survey found that 66% in Brazil and 7% in South Korea and Japan have reported that engagement with the LGBT+ community is via having a gay or lesbian relative, friends or colleagues. In addition, most countries also provide strong support for LGBT equality such as the implementation of anti-discrimination laws, equal marriage and the adoption of LGBT rights. Many corporate activists promote and support this equality globally and most countries also promote LGBT visibility which accepts their sexual orientation such as in public, on TV or media, in films and advertising.

This is reflected via a survey report that found that on average 1% of adults worldwide would describe identification of themselves as transgender. In global, 80% of the population would identify as heterosexual, 3% as homosexual, which involves gay and lesbian identity, 4% as bisexual, 1% as omnisexual or pansexual, 1% as asexual, 1% as others and another 11% don't know their sexual identity. Unfortunately, some countries are unable or unwilling to define or expose their sexual orientation which accounts for 39% of the population in Malaysia, 33% in Turkey, 24% in India, 19% in Russia and another 15% in Mexico. 5% of the population in Brazil, Spain, Australia, Canada and the Netherlands, 1% of Hungary, Peru, Italy, Poland, Japan, China, and South Korea and less than 1% in Russia identify themselves as homosexual orientation.

Globally, 4% of males are more likely to identify as homosexual or gay and 1% of women are lesbian. However, this survey found that 1 % of Turkey, 7% in Brazil and Mexico and 9% in India self-identify as bisexual orientation. In terms of sexual attraction, this survey reported that 60% of those who self-identified as homosexual (gay or lesbian) were only attracted to the same gender and another 24% were mostly so.

The IPSOS survey found that exposure to a homosexual person is more prevalent among women compared to men, which accounted for 47% and 37% respectively in the global overview. The highest country exposure is Brazil (66%), Mexico and Chile (64%) and China (11%), Japan and South Korea is 7% accordingly. LGBT engagement is more prevalent in the Z generation and Millennials compared to X generation and Boomers which are 48%, 45%, 39% and 38% respectively.

The scope of exposure to bisexual orientation is more significant to Z generation (41%) compared to Boomers (11%), with the highest exposure reported in Brazil (50%) and lowest in Japan (4%). Moreover, generation Z (14%) is more likely to engage to transgender community compared to Boomers (6%) and is lowest in South Korea and Hungary (2%) and highest in Canada and Australia (18%). Globally, 13% reported having attended a public event to support the LGBT community and human rights such as a Pride march, etc, of which 54% among homosexual, 37% of bisexual and 32% others.

This public event is mostly supported by the Z generation (18%) and Millennials (16%). Most of them are from adults in Spain (22%) and 21% of adults in Australia, India, South Africa and Mexico. In general, 11% of them have attended a same-sex wedding and this incidence highest occurs in Mexico (21%) and Argentina and Belgium 20% respectively. However, this is slightly different across age groups and gender lines. In Malaysia, this study exposes that about 14% of the Malaysian population identify themselves as homosexual (either gay or lesbian), 7% as bisexual, 5% as transgender and another 7% as non-binary or non-conforming gender.

Meanwhile, in same-sex marriage and parenting aspects, an average of 27 countries that participated in this study declared that more than half (54%) support people to marry legally and 16% of them express their support in another form of legal recognition based on human rights. In-depth statistics, the majority of 16 countries and pluralities in 7 others support equality in same-sex marriage. Only 2 countries within 27 participated in this study that have majorities against any form of legal recognition of this issue which are Malaysia and Russia. In results show that 60% of women, and 48% of men support these equality relationships globally which are dominated by Z generation (61%), boomers (56%), millennials (54%) and X generation (47%).

The majority of 20 countries agreed that same-sex couples should have the same rights to adopt children as normal couples do but Peru, Russia, Malaysia and Poland disagree on this issue. This is greatly supported among women (67%) compared to men (55%), dominating the Z generation. They share their view that same-sex couples are capable of adopting children as normal couples and raising them successfully.

In Malaysia's perspective, only 8% of respondents agree with same-sex marriage legally and are allowed to obtain some kind of legal recognition but not to marry at all. The majority of Malaysians stand with their view of not allowing same-sex marriage and obtaining any kind of legal recognition which is allocated as 65%. Otherwise, 19% of Malaysians show their confusion and are not sure about this topic of discussion. However, this overview is slightly different and should be conducted in detail survey among the Malaysian community in deeply.

Globally, the visibility and equality among LGBT significantly increased while the statistic shows that 51% of respondents strongly support LGBT people being open to their sexual attention or gender identity with everyone, while 33% neither support and another 16% strongly oppose kind of LGBT identity. Otherwise, 37% of respondents strongly support LGBT people showing their intimate actions in public such as kissing their partners or holding hands likely normal couples, another 36% and 27% neither support nor strongly suppose accordingly.

This study also found that half of the respondents (50%) strongly openly their attitude regarding gay, lesbian and bisexual in sports teams and 16% strongly opposed this idea. In mass media exposure of LGBT such as characters on TV, in advertising and in films is slightly different while 40% stand to neither support, 35% strongly support and 25% strongly oppose. In specific countries, data for the visibility of LGBT can be shown that the highest majority are Spain, Netherlands, Mexico, Chile, Argentina and a few more countries, while the lowest majority on this issue can be seen in Malaysia and Russia.

2.3.4 Anal Sex

Male homosexuality is quite popular with anal sex activity in general. However, some of those who participate with MSM do not engage in anal sex but might be another way of sex such as oral sex, frottage or mutual masturbation instead. To engage in this activity, there are three positions of roles that play a crucial in anal sex. The first is known as a “top” which reflected those who insert their penis into the partner or call as insertive. The second is a “bottom” which refers to one being penetrated by another penis or known as receptive. Lastly is a “versatile”, those enjoying both roles either top or bottom.

Mostly, the MSM individual engages in anal sex without a condom or condomless penile-anal sex is known as bareback sex. This term comes from the equestrian which is an activity of riding a horse or horseback riding. Historically, this term was first used by the United States Army force (informally known as G.I) during the Vietnam War in 1955 when their army was engaging in condomless anal sex was known as “going in” or “riding” bareback. In 1972, the term bareback was included inclusively in the publication of Playboy’s book of forbidden words. In 1980, this word was used in print to refer to unsafe sexual practices that promote AIDS. However, the current shows that this term has become more popular and is now used less frequently among the heterosexual community. The Department of Health and Mental Hygiene (2009) found that heterosexual women are more likely to practice this behaviour compared to gay and bisexual men. Anal intercourse may be accompanied by pleasure, discomfort or both. Whereas the nerve fibres in the anus can provide delightful sensations, orgasm can be obtained by receptive anal penetration via indirect stimulation of the prostate.

Tim Dean (2009) defines barebacking as a subculture of homosexual men who engage in condomless penile-anal sex. When examining the psychoanalytic underpinnings that drive these activities, Dean admits that it is difficult to distinguish barebacking from other practices. He explains how distinct raw wants are created via these communal practices, expressing not just themselves-shattering rupture of possible HIV infection but also how queer kinship can be constructed through the sharing of fluids. Other scholars claim that barebacking is more an umbrella phrase for a complete spectrum of relations to unprotected intercourse (Race, 2015).

Therefore, the phrase bareback has several meanings and varying argumentative dynamics that have evolved throughout time. This is critical to understanding how the legislation governing HIV transmission expands its reach to include bareback intercourse. According to Dean (2009), intercourse without condoms used to be considered normal due to a lack of alternatives. Bareback sex was just sex. The term eroticization can now be interpreted in several ways as the result of distinct cultural processes (Asford C., Morris M. & Powell A., 2020). That is, the fetishization of bareback sex via pornographic labels and broader subculture by Internet pages, sex gatherings and other interactions which occasionally overlap with the emergence of chemsex has assisted in transforming bareback sex into one with more general social features for many and it needs to be acknowledged beyond the strictly accepted construction of condomless penile-anal sex that the criminal law has predicted.

Furthermore, among LGBT communities, condomless penile-anal sex is a sensitive topic. Conventional and community-based media frequently encourage us that bareback is harmful and this ethical enforcement is increasingly supported by legal interventions around the world that aim to tackle the spread of sexual infections as well as laws designed to control and condemn the visual representations of bareback sex. The barebacking sexual practitioner creates fresh perspectives of what it means to be a homosexual in the twenty-first century, questioning myths that have long been connected with equality and normative aims such as same-sex marriage, monogamy and military membership in this norm. additionally, researchers are starting to study this trend through theoretical conceptualizations of the homo-normative and “bad queer” “hood gay” study.

In accordance to the National Survey of Sexual Health and Behaviour (NSSHB) in 2015 found that men who reported assuming a receptive posture during anal sex in their most recent encounter consistent at least as likely to have had orgasm as men who took an insertive role. A study of men who were single in the United States discovered that orgasm rates are similar across sexual orientations. In terms of pain or discomfort during anal sex, some study shows that painful receptive anal intercourse, namely anodyspareunia is a common lifelong sexual issue for 24% to 61% of homosexual or bisexual males.

The prevalence of anal intercourse among MSM has changed throughout time, with certain percentages being higher than others. A substantial proportion of homosexual and bisexual males self-report lifetime anal sex activity. According to analyses among homosexual men, the proportions are comparable when comparing guys who like to penetrate their partner (insertive) to those who prefer to be the receptive partner. Some guys who have sex with males on the other hand think that being a responsive partner during anal intercourse calls their masculinity into scepticism.

Amoo O.E. et al. (2022) conducted a study about high-risk behaviour among MSM in Benue State, Nigeria highlighting that several risk behaviours are detected which is significantly prevalent in HIV and STI infection. There are inclusively related to educational level, anal sex among MSM, condomless penile-anal sex, multiple male partners and lubricant uses during sexual intercourse. According to a comprehensive study and meta-analysis of HIV transmission risks in anal sex, there is a 1.4% infection chance per act of unprotective receptive anal sex and a 40.4% (6.0 -74.9) infection likelihood per partner.

Another study by Mwaniki S. et. al. (2023) among tertiary student men found that 153 men (63.2%) identify as gay, 80 men (33.1%) are bisexual and 9 men (3.7%) are heterosexual. However, more than half of the participants (130 men or 53.7%) agree that they ever had vaginal sex with women and 112 (46.3%) say no. In order of sexual roles at first anal intercourse attempt with a man, the majority of them chose to be an insertive role which accounted for 42.8% or 103 respondents, another 83 men (34.4%) became receptive and the rest are versatile roles (55 men or 22.8%). However, 117 (48.6%) of them are more likely to prefer an insertive role compared to versatile (75

men or 31.1%) and receptive (49 men or 20.3%). This study also found that about 201 men (83.4%) are consensual of nature for the first anal sex with a man compared to forced only 40 men or 16.6%. Furthermore, about 172 respondents or 71.3% admit that they have had more than one anal sex partner within the last 12 months and 69 (28.7%) have only one partner at this frame time.

In Malaysia, a study about sexual practices among MSM in a community-based counselling and testing centre (VCT) located in central Malaysia among 433 clients. There were more than half of that are between 20 to 29 age (258 or 59.8%), 130 men are 30 to 39 age (30.2%), 28 men (6.5%) are 40 to 49 age, and the group of age 50 to 59, more than 60 and less than 20 are 6 (1.4%), 2 (0.5%) and 7 (1.6%) respectively (Koh K.C. et al., 2012). In terms of ethnicity, this study found that the majority of its participants are Chinese (253 or 59%), followed by Malay (115 or 26.8%), Indian (21 or 4.9%) and other (40 or 9.3%). More than half are identified as homosexual (356 or 82.2%) and Bisexual (77 or 17.8%). This study consists of 3 sexual practices which are vaginal sex, oral sex and anal sex. Surprisingly, the total of anal sex respondents is quite higher compared to other practices which are 408 in total that engaged, 322 are homosexual and 65 are bisexual. The combination of anal and oral sex practices is dominated by the other sexual practices which are 300 (85.2%) are homosexuals and 37 (50.7%) are bisexuals. Unfortunately, 87 respondents are consistent in using condoms when having anal sex with their partners while 284% are inconsistent in using condoms.

In addition, Lim S.H. et al. (2013) conducted a study about unprotected anal intercourse among MSM in Penang Malaysia. Within this study, as many as 284 participants have participated, while 186 65.5%) are currently living on the mainland and 34.5% are from Penang Island. This study found that more than half (154) of the participants had more than 15 MSM friends and 69 of them had female sex partners in the past year. 213 persons or 75% of them never do for HIV test. In terms of the type of male sexual partners, most of them had regular and casual partners (119 or 41.9%) compared to regular partners only (65 or 22.8%) and casual partners only (100 or 35.2%). This study also found that 86.7% are using water-based lubricants during anal sex with their partners. 112 respondents mentioned that it is difficult to use condoms whenever having sex with another man. Within 112 of that, most (80 men or 71.4%)

said that barebacking is more fun, 56.3% (63 men) requested their partners not to use condoms and 60 men (53.6%) do not carry condoms. However, this study is the first conducted among MSM outside of Malaysia's capital and needs more surveys to enhance the data.

2.3.5 Non-Penetrative Sex

Generally, there are various non-penetrating sex activities practised out there. Frot or frotting is one of that practices that can be considered as non-penetrating sex. This word is from French which means "to rub". This word originated from homosexual male activities who despised the practice of anal intercourse. Still, it has since developed to embrace a wide range of desires for the act, which may or may not indicate certain views toward other sexual practices. This may additionally be utilised as a form of foreplay. Because of it is non-penetrative nature, frot has the advantage of minimizing the risk of HIV/AIDS transmission however, it still carries the risk of skin-to-skin sexually transmitted infections like HPV and pubic lice. The present concept of frot evolved in the context of a discussion within the homosexual male community concerning the status of anal sex which some in the anti-anal and pro-prot side believe that anal sex should be avoided entirely.

In the late 1990s, gay activist Bill Weintraub began extensively promoting and recommending the gender-specific meaning of "penis-to-penis rubbing" as frot in internet forums, claiming to have coined the phrase. Weintraub considers genital-to-genital touch to constitute genuine sex. Frot can be delightful as it stimulates both parties of genitals at the same time by causing pleasurable friction on the frenulum nerve bundle on the bottom of each partner's penile shaft, right below the urinary hole of the penis head.

The other form of non-penetrative sex is intercrural sex which is commonly practised among MSM. Intercrural sex is also known as coitus interfemoral, thigh sex, thighing, thigh-job and interfemoral sex. This form of sexual activity has placed the penis into receiving partner's thighs and thrusting generates friction. This activity is regularly conducted in current couples of many orientations which some adult women are believed to employ to promote climax and it was frequently used as part of slavery in Paris. This practice is widespread in Africa and parts of Asia, where it is carried both by heterosexual and homosexual communities. It was used to treat AIDS in South Africa however this practice was subsequently discontinued.

Docking is an intimate activity without penetration. Docking is commonly practised among uncircumcised men in which one of them pulls his foreskin back and holds it while another guy stretches his open and outward as far as possible over the head and shaft of guy one's penis. Docking may be a relaxing experience for people who prefer having their foreskin stimulated. It may also be used by partners to explore closeness and connection while engaging in sexual activities. Docking is a novel and exciting technique for some people to enhance their sexual encounters.

Additionally, manual sex is another type of non-penetrative sex that is frequently practised between men. Manual sex also known as manual intercourse is the act of making use of one's hands or fingers to stimulate another person's genitals. Handjobs and fingering are two types of manual sex. Handjob is an act which manually stimulates the penis or scrotum using the hand's partners such as masturbation and many more. Otherwise, fingering is a manual stimulation put on the partner's genitals such as the vagina, clitoris or other regions of the vulva for those having sex with women. However, fingering is also used for homosexual activity which manually stimulating another's anus by inserting their finger into the anus, known as anal fingering. There are many more types of manual sex activity such as bagpiping (the penis is inserted in the other person's armpit), erotic massage (rubbing of the body part to create pleasure), footjobs (stimulating the penis with another individual's feet), intergluteal sex (the penis stimulated by rubbing the partner's buttocks) and kissing.

2.3.6 Oral Sex

From the perspective of oral sex, the sexual activity might be fellatio and anilingus. The word fellation originated in Latin which means to suck. Fellation also known as fellatio is a type of oral sexual activity which involves stimulation of a sexual partner to the penis of another by using mouth. Otherwise, fellatio is also used to address oral stimulation of the scrotum or also known as colloquially as teabagging. Commonly, it is performed by a sexual partner as foreplay before beginning another form of sexual activity such as anal intercourse for MSM and vaginal penetration for bisexual persons.

The most important part of fellatio is oral stimulation of the entire penile including the shaft and glans via sucking with the mouth, licking with the tongue and lips or both of that. One approach involves the sex partner placing the penis in the mouth while dragging it up and down in a continuous motion while being cautious not to make touch with the teeth. Additionally, it involves oral scrotal stimulation such as licking, putting or sucking the entire scrotum into the mouth. Orgasm can happen throughout the act and semen may be ejaculated into the partner's mouth. Deep-throating and 69 position is an example of oral sex and quite familiar among homosexuals.

According to Wellings et al. (2013), the model of homosexual with anal sex between men is usual among lay and health workers identically whereas a web-based poll of 18,000 MSM within Europe demonstrated that oral sex was most frequently practised, after mutual masturbation with anal sex coming in third. The Journal of Sexual Medicine (2011) has conducted a survey and found similar results for the United States gay and bisexual men which 74.5% of respondents would be kissing a partner on the mouth, 72.7% would be having oral sex and 68.4% would have masturbation.

Milan D.B. et al. (2018) conducted a survey of oral sex among homosexual and heterosexual men in Belgrade and found that 10 respondents are performing oral sex to their partner. Otherwise, 70 respondents received oral sex and 279 were identified as performed and received oral sex. The majority of them show that 49% (176) had one oral sex partner during the last 3 months, while 22.8% (82), and 19.2% (69) had 2, or more than 3 oral partners within the timeframe respectively. As many as 250 (86.5%) respondents said that had ejaculated in their partner's mouth and 39 (13.5%) are not.

Surprisingly, more than half (54.4% or 55 men) performed and received oral-anal sex with their partners compared to those who only performed oral-anal (28 or 27.7%) and received oral-anal (18 or 17.8%). The data shows that the majority of them (261 or 90.3%) never use condoms or dental dams to perform oral sex and indicated that oral sex without protective equipment is quite higher. For the receiver of oral sex, the data shows that the majority (245 or 70.2%) are having unprotected oral sex with their partners.

Based on Bespoke (2020), estimated that the average of respondents on their survey participating in oral sex is 5 times a month either receiving or giving in roles. However, this study found that bisexuality is higher in performing oral sex compared to other categories which is estimated 6 times per month. In contrast, lesbians frequently receive oral sex estimated 8 times per month. When it comes to oral sex, 66% of those surveyed said they will play with their partner's other body parts, 11.8% masturbate and 13.3% are going to do nothing but the act itself.

The American respondents stated that the majority of them (31.2%) will achieve their orgasm with oral sex some of the time, while 22.4% said most of the time, 19.6% do it every time, 13.4% about half of the time and 13.1% are never. However, the finishing preferences of Americans with their partners who ejaculate are on or in the penis or vagina (36.7%), in the mouth (28.2%), on the facial (20.24%), elsewhere on the body (17.4%), on or in the buttock (14.2%), on themselves (11.8%) and on an inanimate object (12.8%).

Based on Koh K.C. et al. (2013) found that 3 popular sexual behaviour reported during this survey which are sexual via vaginal, oral and anal. Among 404 respondents involved in oral sex, 335 are homosexual and 69 are bisexual. Undoubtedly, 97.9% of homosexual respondents are declared as engaged in oral sex while 97.1% of bisexuals also do that behaviour. However, this survey also found that most homosexuals and bisexuals are engaged in oral sex and anal intercourse indicated by 85.2% and 50.7% accordingly. Besides, 98.7% of those engaged with oral sex reported that inconsistent in using condoms and 9.1% (21 men) were diagnosed as HIV positive. This high percentage of inconsistent condom use and unsafe behaviour is also a cause for concern.

2.3.7 Pre-Test Screening

An HIV test examines a sample of your blood to determine whether you have HIV. HIV is a virus that attacks and kills immune system cells. This cell defends your body against pathogens such as bacteria, viruses and fungi. Your body may struggle to fight infections and other disorders. Contact with HIV-infected people's blood and other bodily fluids spreads the virus. This frequently occurs during intercourse or when sharing needles or other injecting equipment.

HIV testing is classified into three categories. They are all highly accurate but no test can detect HIV in your body shortly after infection or exposure. This is because it might take weeks for the indications of HIV in your body to rise sufficiently to show up on a test. The duration between contamination and when a test can detect HIV is determined by your body's reaction to HIV.

As part of standard health care, the Centers for Disease Control and Prevention (CDC) advises that everybody between the ages of 13 and 64 undergo testing for HIV a minimum of once. Those who are categorised as having a higher risk of infection should be tested more than once. If have not had an HIV test in more than a year, should obtain one as soon as possible if you have particular criteria as below:

- i. Have vaginal or anal intercourse with somebody who has HIV positive or is unaware of their HIV status.
- ii. Injected drugs and shared needles, syringes or other drug-related equipment with others.
- iii. Sex was exchanged for money or drugs
- iv. Have you ever had a sexually transmitted disease (STD) such as syphilis?
- v. Have you had intercourse with someone who has done any of the things listed above?

Based on global statistics provided by the World Health Organization (2023), show that 86% of people living with HIV globally know their status while 76% that on antiretroviral drugs and 71% are achieved to suppress viral load in 2022. In the African region, about 90% realised their HIV status of positive with 82% on medication and 76% achieving undetectable status. However, in the American region, as much as 86% know their HIV status, and the percentage for on medication and suppressed viral load is quite high which are 76% and 69% respectively. The Southeast Asia region also demonstrated that the percentage of know their HIV status is 81%, but the percentage of those on medication and suppressed viral load are 65% and 61%. Unfortunately, the lowest region on known HIV status, those on medication and suppressed viral load is the eastern Mediterranean region with 38%, 27% and 24% accordingly. The gap to reach of cascade target is double of percentages shown. This indicates that a more comprehensive plan needs to be implemented to reach the target in the future.

In Malaysia, the statistical data presented by the Ministry of Health Malaysia shows a significant increase of number people living with HIV in 2022 compared to 2021. However, the HIV and treatment cascade in Malaysia in 2022 demonstrated that 95% of PLHIV known their positive status which the gap is 12,246. Meanwhile, the gap to achieve 2nd 95% on people with positive HIV on medications is 19,043 and the gap for viral suppression is reported about 3,616. In terms of testing volume, there are demonstrated that gradually decreased from 2019 to 2021 which accounted for 1,812,454, 1,660,667 and 1,577,871 respectively. However, it will increase in 2022 by as much as 1,809,287. The data also shows that in 2018, the number of tests was lowest within the frame time from 2015 to 2022 but the positive rate is highest compared to other years which is 0.25%.

Additionally, Malaysia's HIV testing program has grown throughout the years. It currently includes both statistical facility-based testing and community-based testing which focuses on hard-to-reach critical groups. As an outcome the percentage of PLHIV who know their status has gradually increased to 95%, nevertheless, progress has slowed in the years 2020-2022 due to the COVID-19 epidemic. &0% of new patients in 2022 were diagnosed at a late stage. This indicates the need to improve public awareness so that persons with high-risk behaviours would be tested at least once a year.

2.3.8 Illicit Substance Use

Substance abuse is a major issue among members of the homosexual and bisexual community. Many persons in the sexual minority struggle with addiction, ranging from alcoholism and excessive drinking to the use of drugs such as methamphetamines, heroin and opiates. According to statistics, homosexual and bisexual individuals are nearly twice as likely as straight peers to use illegal substances and nearly twice as likely to have a substance use disorder.

The National Survey on Drug Use and Health (NSDUH) (2022), found that 59.8% or 168.7 million people in the United States reported using tobacco products, alcohol, vaping nicotine or illicit drugs which are among of aged 12 and above. Specifically, 48.7% or 137.4 million are drinking alcohol, 18.1% or 50.9 million using tobacco products, 8.3% or 23.5 million using nicotine vape and 16.5% or 46.6 million using illegal drugs. About 7.3% of adolescents aged 12 to 17 or about 1.9 million in the United States reported using tobacco products or vaped nicotine in last past month and 73.2% only used vaped nicotine products.

This survey shows about 137.4 million identified as alcohol users aged 12 and above and 61.2 million or 44.5% drank a binge for the past month. Binge drinking is significantly higher among young adults (aged 18 to 25) compared to adults (aged 26 and above) and adolescents (aged 12 to 17), which is 29.5% (10.3 million), 22.6% (50.1 million) and 3.2% (834,000) respectively. In terms of illegal drugs, marijuana is more familiar compared to other drugs, which estimated about 22.0% aged 12 and above (61.9 million) used this illicit substance in the past year. The percentage demonstrated that highest among young adults (38.2%) followed by adults and above (20.6%) then by adolescents (11.5%).

However, was reported that 3.2% of those aged 12 and above misused opioids such as heroin mostly prescribed as painkillers in the past years. In proportion, 1.0 million are reported as misuse of heroin compared to 8.5 million are in misuse of painkillers. A total of 991,000 individuals aged 12 or above have been reported in the use of illegally-made or legally-made fentanyl in the past year. However, the majority is reported to use illegal fentanyl. There are three categories of substance use disorder which consist of alcohol use disorder (AUD) (29.5 million people), drug use disorder (DUD) (27.2 million people) and both (8 million people) in total of 48.7 million in 2022. By group of age, SUD has been dominated by young adults (27.8% or 9.7 million), followed by adults (16.6% or 36.8 million) and adolescents (8.7% or 2.2 million). About 19 million individuals have been reported for marijuana use disorder in 2022, which majority of them had a mild disorder and 17.3% are categorised as severe.

In Malaysia, roughly 2,138 teenagers or 9.25% misused drugs in 2010, with the majority being youths aged 19-39 and then followed by those aged 13-18 (Agensi Anti Dadah Kebangsaan (AADK), 2011). Based on the Institute for Public Health research done by the Malaysian Ministry of Health in 2019, the prevalence rates of drug and substance use (DSU) over the previous 30 days and drug usage among Malaysians aged over the age of 18 were 0.5% and 1.5% accordingly (Agensi Anti Dadah Kebangsaan (AADK), 2011). According to the survey, the prevalence of kratom use (an herbal item which may have opioid and stimulant-like effects) was 0.4% in the previous 30 days, while consumption of cannabis was 0.7% for first-time users of illicit drugs (Institute of Public Health, 2019).



2.3.9 Social Dating Apps

A social-based dating application is a dating site that is delivered via a mobile phone application. These applications frequently use a smartphone's tracking capabilities, always being there and connecting to mobile wallets. These applications accelerate the online meeting process of filtering over possible dating partners, talking, flirting and even meeting or getting romantically connected. Online dating apps often cater to a younger audience. Today, over half of individuals know someone who uses the services of or encountered a loved one through it. Since the iPhone's release in 2007, online dating data has grown exponentially as app usage has surged. In 2005, just 10% of 19 to 24-year-olds reported using online dating services, however, this figure swiftly climbed to more than 27% making this group the most active for most apps.

Adolescents can benefit from social media by improving their health literacy and communication abilities. Excessive utilisation of social media can cause social and physical issues, including cyberbullying, sleep issues, internet addiction, depression and increased exposure to pornography and risky behaviour. Social network dating, when people meet online, can lead to unexpected and unsafe sexual experiences and behaviours. MSM are more likely to engage in high-risk sexual behaviour and drug misuse.

Sexual risky habits were linked to trends in geo-social networking app usage. Men who used three or more applications or websites to find sex partners were more likely to engage in anal intercourse and condomless anal sex in the last three months. Utilization of this kind of technology was linked to a higher risk of having sex exchanged for food, drugs or a location to stay during the last three months.

Grace O. (2019) stated that 46.1% of online dating users in Malaysia are from the age of 25 to 34 years, followed by 20.9% (35 – 44 years), 20.3% (18 – 24%), 9.2% (45 to 54 years and 3.4% (55 to 64 years). Novi A.P. & Wini T. (2020) found that the top two famous homosexual-linked apps are Grinder and Jack'D compared to the other 19 gay-only applications available nowadays. The most important reason for choosing these apps is due to complete features and free apps. Users may use this app to connect with friends, business partners, girlfriends, sexual partners or commercial partnerships for their enjoyment.

Chaloempong T. et. al. (2023) found that the median number of dating apps used among homosexuals in Thailand is 3.0 (1-10), while bisexuals and queer are 2.0 (1-10) and (2.0 (1-7) accordingly. 167 homosexual respondents mention that the main purpose of using apps or websites is to find friends, while 146 are for long-term relationships, 75 respondents are looking for sex partners and 7 are sex workers. Otherwise, the majority of bisexual respondents agree that the purpose of using apps is to find friends (87 respondents), long-term relationships (67 respondents), and sex partners (33 respondents) and 8 are for sex workers. This study also found that the majority of respondents use Google websites for their sexual activities, followed by Bee Talk, Blued, Hornet, Jack'D and Grindr. More than 80% of respondents accessed dating apps on Saturday compared to other days. Over 60% are assessing online apps between 5 pm to 10 pm. A significant number of dating apps and websites were produced in English, indicating a high level of education or understanding of the language among the population.

2.4 Conclusion

The points above are significantly contributed to risky sexual behaviour among homosexuals. The proper study must be conducted to enhance of findings, especially among the targeted population in Malaysia. This finding might be different to another study due to many factors and the need for enhancement. From there, the awareness level can be measured to create a suitable mechanism for enhancement.

CHAPTER 3

3.1 Introduction

This chapter describes the research methods applied to the study. Scientific research technique is the primary instrument for answering research questions and accomplishing research goals. The chapter opens with a brief introduction to the philosophical idea of research. This study uses a qualitative approach as a guide to achieve its research objectives. The research methodology is then discussed, along with the rationale for the research. The data analysis approach and the pilot study that was used for the current investigation are explained. The chapter concludes with a conclusion of its contents.

3.2 Research Paradigm

Kuhn proposed the idea of a research paradigm in 1960, with the goals of appreciating people, standards, norms, reference frames, theories and authorized processes. The research is done by carefully selecting a research paradigm (Cresswell, 2009). A paradigm is a fundamental belief system that includes standards concerning ontology, methodology, epistemology and approaches. Furthermore, it may be defined as a method of comprehending the reality of the world as well as how we want to do research (Rehman & Alharthi, 2016). In general, it explains the fundamental set of assumptions that impact the way we conduct research in order to characterize research paradigms. Similarly, it is described and characterized as the fundamental belief system or worldview that can guide the research (Krauss, 2005).

There are two main types of research techniques: qualitative methodology, which is based on the positivist paradigm and qualitative methodology, which is founded on the interpretivism or constructivism paradigm. As previously stated, there are two basic paradigm orientations to educational research: positivism and interpretivism or constructivism. Constructivism is regarded as one of the most effective philosophical frameworks in the twenty-first century for understanding the complex nature and diversity of phenomena, particularly when flexible ideas and inventions that demonstrate originality are genuinely looked for via any form of qualitative study (Adom et. al., 2016).

In addition, the interpretive approach encompasses a variety of research traditions. These include naturalism, hermeneutics, phenomenology, symbolic interactionism, constructivism, ethnography, ethnomethodology and case studies qualitative research (Othman L., 2018). Thus, in accordance with this argument, humans are both the topic and object of research in the social sciences and studying the social environment is, in a sense, studying ourselves. The interpretative paradigm is founded on epistemological assumptions and ontological which vary significantly from the positivist narrative. They accept experiential epistemology and are likely to use ideographic techniques. To clarify this, facts are considered not to exist in outside reality since they will only exist through a theoretical framework. To clarify this, facts are considered not to be present in external reality since they will only be present through a structure of theory. As a result, reality will only present within the boundaries of the mental structure employed to conceptualize it.

It is evident that the interpretivist model regards reality as dependent on the mind. Considering the fact that there are several realities, the mind plays a significant part in creating and producing experiences. This demonstrates that the truth has multiple dimensions and originates within the human imagination. If reality just is a part of the mind of humans, subjective contact is the only way to reach it. As a result, the mind and object will be inseparable. Value is closely linked to the one who understands the act of learning. Because reality is dependent on the mind, therefore are going to be no facts free of interpretation. Dependence refers to how we perceive behaviour and activities, and what significance we assign to movement, voice and motive regarding ourselves and other people, which forms a social reality for us. In a nutshell, the social

environment is an interpretation of itself. In summary, we push to better understand the world of society by constantly creating social realities based on our viewpoints, values and beliefs.

Furthermore, as everyone knows qualitative methodology is focused with determining the meaning of focused with determining the meaning of social occurrences. In contrast, the quantitative approach deals with efforts to quantify social processes via the collection and analysis of data. It is known that a thorough comprehension of the philosophical perspective can help researchers perform their studies more effectively (Al-Ababneh, 2020). The methodology's job in qualitative research is to lead the researcher not simply during data collection at the beginning of the research and during the data interpretation at the final stage of the research project, but also throughout the development and building of the framework for the research.

In this qualitative research approach, the methodology takes on a broader context. This is related to the qualitative studies strategy, which includes the researcher as a component of the study instrument. As a result, the data-collecting method is more casual and mostly transparent. Although the researcher forms a component of the research tool, the manner in which he or she sees and reacts to the specific phenomenon to be examined determines how the research is carried out. In terms of the qualitative research approach, the research methodology from the perspective of philosophy, includes the question of how the researcher perceives and responds to the phenomenon to be studied, specifically the researcher's ontological and epistemological factors (Rasid Mail et. al., 2016). As a result, methodology should be determined depending on the topics to be examined along with the context and requirements of the study's difficulties and questions.

For that purpose, qualitative is chosen on this study which is to explore deeply on any kind of behaviour related to MSM activities transparently. In the same vein, to collect as much as suggestion on prevention in HIV among them that engaged directly into risky activities.

3.3 Research Process

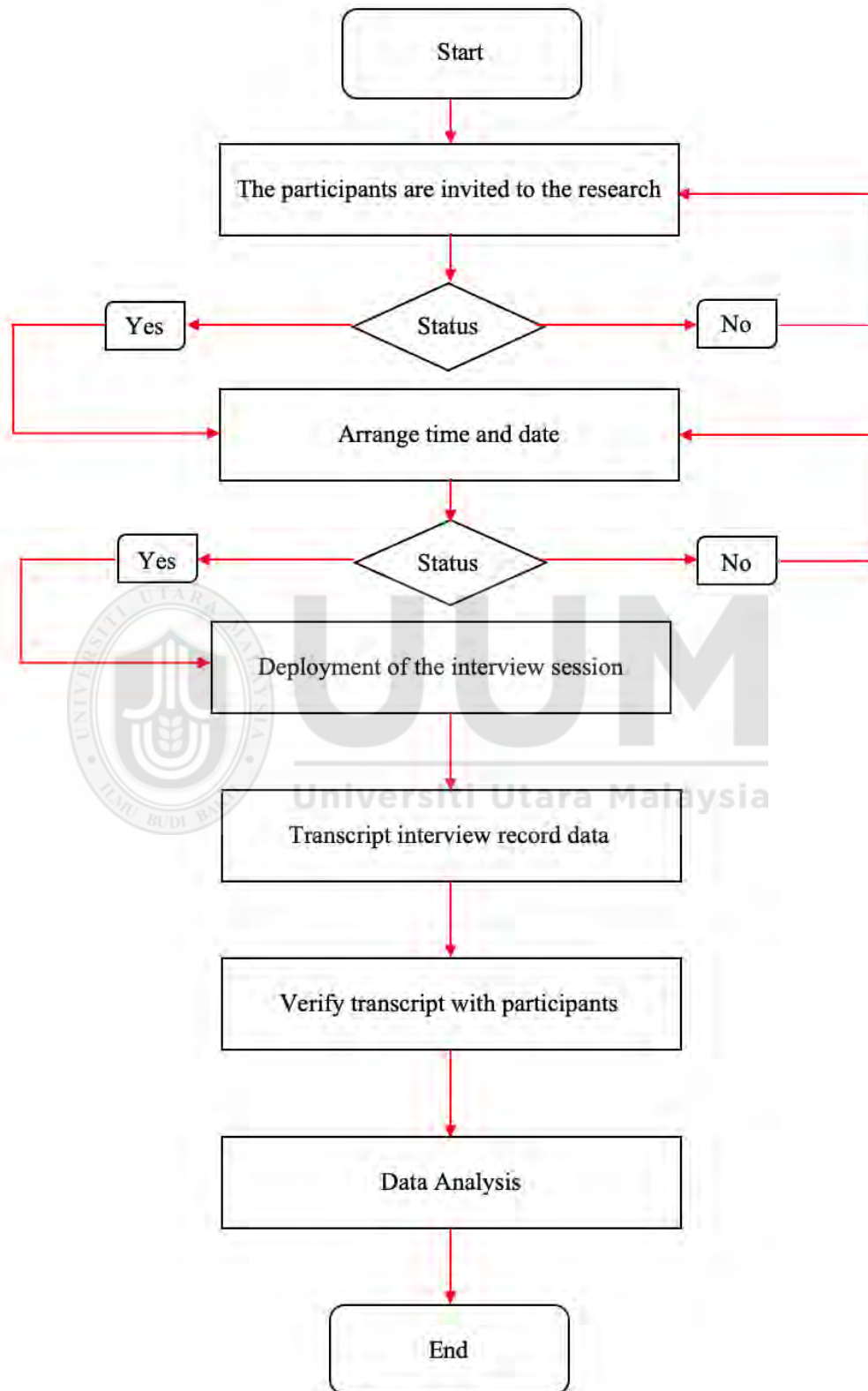


Figure 3.1
The qualitative research process adopted for the study.

The research process is begin with approaching respondent to participate on the study. On this stages, the participant will be explain briefly about the study and the entire of process. The researcher need to convincing participant that this study not be exposure their identity. If they are agree to participate, the researcher would be arrange the time and date for interviewing. Otherwise, the researcher need for looking forward another potential respondents. The time and date must be convenient for both either participants or researcher. When it's achieved, the researcher would be set the interview session. For that purpose, convenience of place of interview session must be preferred to ensure all data can be collected properly.

Before start the interview session, the researcher explain again the entire process would be held to ensure that all participants know their right. The letter of permission of data collection by university also be showed to them. The session is held carefully and start with general topic to create the bonding with the participants. Any distraction during interview session would be minimising as much as possible to keep the data is privacy and comfort. The interview session would be ended by open for any question from respondents. At the same time, the test of HIV is performed to the participants parallely. When the result is done and no any question from participants, the researcher closed the session with saying thank for willingness in participated on this study.

The data is stored properly and backup on cloud for any possibility. The researcher start to transcript the recording words by words using Microsoft words. When transcription is completed, the researcher show to respondent for verifying of data. After validation is done, the researcher import the data into NVIVO 14 for data analysis process. The process involve of reread the data and review audio to ensure all the important element is captured well. The research process is ended with report writing.

3.4 Research Design

Research design is a structured array of methods for carrying out research. A researcher has to commit to his or her study design if they want to effectively tackle the research problems and questions, thereby achieving the research objectives. A research design is the collection, analysis and interpretation of data for a study (Creswell, 2014). The four categories of qualitative research are grounded theory, phenomenology, ethnography and case studies. This study was carried out by applying qualitative approaches. According to Lexy (2007), a qualitative approach comprises a research technique that results in a clear image of facts. According to Strauss and Corbin (1990), qualitative techniques refer to any sort of research that leads to discoveries and outcomes without the use of statistical processes or other quantitative methods. Otherwise, this kind of study derives discoveries from the research circumstances, where the results of the study are dynamically deconstructed (Patterson, 2001).

According to Heopfl (1997), qualitative researchers seek findings by comprehending the context, explaining occurrences, and extrapolating from previous studies on the same issue. The use of qualitative methods is deemed appropriate for this study because the researcher wishes to gain a better understanding of the teacher's experience, particularly in terms of sexual awareness of HIV, safety precautions and considering before engaging in any kind of dangerous behaviours and activities, which can assist the researchers in understanding the situation of practice as well as developments in living standards in the society being studied. In reality, as stated by Stenbacka (2001), this strategy is appropriate since it produces insight and knowledge.

Qualitative research takes a naturalistic approach to understanding what is happening. In the words of Patton (2002), the investigator can understand the real situation of the events and the study setting without modifying the actual circumstances. Furthermore, the idea of qualitative research integrity becomes more applicable than quantitative research quality. In quantitative research, the idea of quality is assessed by describing the meaning, however, in qualitative studies, the concept of quality is aimed at generating understanding to explain the meaning comprehensively. This strategy will

involve a field investigation with researchers employing phenomenological methodologies. Besides, Benson (2012) has been stated that phenomenology represents one type of technique for qualitative research.

As stated by Pranee (2009), most researchers use phenomenology, which was introduced by a German philosopher named Edmund Husserl in 1931 as a result of his passion regarding human awareness as a way to understand the reality of society. Husserl was also interested in “how awareness is encountered” and he believes that this experience is “wanted” meaning that it stems or is directed from a phenomenon. Moreover, Hesse-Biber and Leavy (2005) reveal that understanding functional awareness. According to Hesse-Biber and Leavy (2005), phenomenology is a worldview that focuses on understanding how people perceive things. As a result, the phenomenological method seeks to investigate the life experience of an individual or society within the phenomena under review (Creswell, 2005; Daly, 2007).

Many researchers agree that the objective of phenomenology is to help researchers comprehend and identify the experiences of study participants in everyday activities (Daly, 2007; Willis, 2007; Carpenter and Suto, 2008; Padgett, 2008). This technique was chosen because the researcher may learn about the experience of high-risk populations regarding awareness and perception towards HIV. At the same time, to find their consideration of prevention on this issue.

3.5 Data Collection Sampling And Procedure

Purposeful sampling was used to choose participants. Using this strategy, the participants are chosen based on specific characteristics. The participants will be selected among high-risk populations which are categorised as young men who live on the East coast of Malaysia. Despite the concept of purposive sampling is considered to generate bias since the participants are chosen according to the researcher's views, but is in line with the demands of the study results. As stated by Reinard (2001), the researcher must use his own discretion to choose the respondent who is most suited to his study. Typically, the picked individual will boost the worth of the researcher's knowledge about the circumstance and actions taken by the targeted individual. In this situation, a participant chosen by the researcher for an interview, involvement in observation and observation provides knowledge, information or whatever objective the researcher is interested in pursuing.

Interviews represent one of the many approaches used by researchers to acquire data. This is the primary approach utilized in data collecting. Interviews are a way of gathering information that involves study participants and researchers working together. Interviews are a crucial part of the study implementation process, especially when doing qualitative study. According to Mason (2002), this technique is used for the following reasons: the researcher's ontological situation indicates that information, opinions, beliefs, clarifications, experiences and relationships are valuable qualities in the social reality that research questions are designed to investigate.

The interviewing process is a critical data collection strategy that involves verbal communication among the researcher as well as the individual being interviewed. To evaluate the accuracy of the data obtained, consider both the interview style and the participant's expertise. For instance, a defective interview style may include questions that lead or questions that the interviewee does not understand. A bad interviewer may impact the subject's reactions, either intentionally or unintentionally. In other words, each of these issues had a negative impact on the research findings (Muthiah P., Naidu R.S. et al., 2020).

Furthermore, scholars believe that this strategy generates societal explanations and argumentation that emphasize focus, depth, level of detail and data duplication as well. In contrast to extensive investigations, but just contacts a tiny portion or part of the surface, according to the data of the questionnaire of the study. The scholar is committed to participating actively in the data collection and analysis process and then becomes an impartial data collector. The scholar feels that interviews are the only way to gather the essential data. This is given that only discussion along with paying attention to the source can generate facts that would not be gained otherwise. This approach enables the scholar to investigate the research inquiries that were initially developed.

Qualitative interviews can add layers to research issues and provide better insight. In addition, the researcher believes it complies with the study ethic of allowing the interviewee to have freedom and control over the discussion's events. Researchers who use of research design of qualitative are able to provide unbiased and accurate information from the perspectives of those questioned. Interview data and information are going to be documented in the field research notes. On top of that, the researcher is going to use a recording device as well to document the interview session. This recording allows the researcher to listen over and over to note any missed discoveries. The voice recording also becomes essential for the purpose of reviewing and ensuring the notes are correct. Researchers feel that the interview approach aids them in comprehending and addressing the study issues.

Semi-structured interviews have been carried out using the young man as a respondent. In this interview technique, the researcher sets the amount of questions for the interview session and additional questions might be added during this interview to get extra information from areas that are unclear or poorly addressed by the research question. In a nutshell, the researcher predetermines the questions for the semi-structured interview, although the responses regarding these questions are open to new questions or can be formed based on the researcher's and participant's preferences (Ghazali & Sufean, 2016).

Semi-structured interviews allow researchers to deeply explore the phenomena by allowing participants to share their experiences in depth, resulting in a more honest approach to reality (Padilla-Diaz, 2015). Moreover, semi-structured interviews are frequently used as a guide, outlining the questions and subjects to be covered. To guarantee that the researcher explores the proper notable the interviewer has the option of organizing which questions will be asked, although the questions have been established and evaluations are available. To go thoroughly into a topic, study and learn systematically the responses offered by participants, it is critical for the interviewer to acquire comprehensive data in a conversational style that may be utilised whenever the researcher desires (Morse, 2015).

3.6 Techniques Of Data Analysis

Because the study's focus was on examining awareness levels among young man their experiences and processes in constructing themes regarding sexual behaviour and participation based on their lived experiences, thematic analysis was used to arrange the qualitative data. Thematic analysis is based on the interpretation of raw data, allowing for direct attention to the perspectives of the participants under study (Braun et al., 2019).

Once the researcher has acquired the data, it will undergo processing using the NVivo program. The usage of NVivo in qualitative data analysis is designed to manage, analyse and understand qualitative data. NVivo software is the researcher's preferred software since it includes graphical representation features in the manner of flow charts or tree diagrams during the qualitative data analysis stage, making it less difficult for researchers to understand the relationship between data, create reports and present the outcomes. On top of that, Nvivo allows researchers to code text from a variety of materials including PDFs, images, videos and audio as well. Nvivo also allows a researcher to construct connections across code, subthemes or themes using drop and drag as well as develop a graphic representation of the data using a network (Othman Talib, 2019).

Once collecting the data is collected, it will be analysed. This step is significant since it is regarded as the determinant of whether the study was successful or not. Qualitative data shall be handled on many levels. One of the phases is transcribing. The first step is to encode or duplicate the data in the manner of audio recordings, which may include interviews with researchers and participants, discussions, video footage or faults discovered throughout fieldwork. Almost all qualitative research will include transcribing. It is not suitable to write a short note from an audio or video clip, instead, the researcher should create a word-by-word reconstruction.

On the transcribing step, the researcher must be comprehensive avoiding missing anything that has been listened to and seen, such as adding nonverbal clues in the transcript such as when during an ongoing interview. Silence might be related to be respondent thinking of a response to be given or because the query being asked impacts the respondent's emotions. Phrases like "em", "eh", "ha" and so on are vital in the transcribing stage and should never be overlooked. Expressions like this may include significant meanings as well as details for the investigator to utilize. This method is time-consuming and it demands the researcher's full attention and patience. Nevertheless, researchers can benefit from this procedure since it will allow them to engage in and comprehend the data from previous field investigations.

Secondly, arranging the information is a critical step following transcription to arrange the data based on the sections that may be reused. The researcher will arrange the data by talking or coding the subject, the data of collection or respondent type.

Following that, uniformity of data or familiarity with the data. Whenever every piece of the data has been successfully gathered, the researcher is responsible for familiarizing themselves with the outcomes. Throughout the procedure of normalization, the researcher will pay attention to the recordings of the interview that the investigator conducted with the respondents, look at the footage taken during the field study or the data from the external video recording, read and repeat the reading of the data, and summarize all of the data before moving on to the next analysis step.

Afterwards, that is coding. This is the most crucial step in the analysis of qualitative data. Coding is a way of recognizing sequences in the written material and references to the text inside a database item. Coding should begin as soon as the initial data collection is completed. This approach facilitates the researcher's knowledge of the information and data gathered as well as serves as an outline for researchers in determining the topic of the study. According to Miles and Huberman (1994), coding does not refer to data that is ready for analysis, rather it occurs continually during the data-collecting process.

Furthermore, the construction of categories will then be targeted with specific categories formed to represent the continuing investigation. Researchers must verify continually during the coding process to guarantee that tiny categories and categories achieve a stable and consistent level (Lincoln and Guba, 1985). Once the category has reached a steady level, the researcher can remove unnecessary categories and subcategories from the coding procedure.

Afterwards, proceed with the subject theme. The researcher will generate a topic based on the literature focuses, and multiple themes are likely to be generated. During this step, the researcher will find new themes and repeat the procedure of coding to improve the categories that the researcher has developed.

The final step is to report. This stage constitutes the most complex level of data analysis. Researchers should assess and remark on the research's conclusions using the data collected during the study. At this point, it is critical for the investigator to have extensive skills and expertise in the topic being examined. The analytical result must be provided straightforwardly and properly in the research report so that the reader is impressed.

3.7 Reliability And Validity

Qualitative investigations are particularly sensitive to issues of reliability and validity throughout the research study. Validity and dependability are critical components of every study. Consideration of these two traits may mean the difference between excellent and bad research as well as ensuring that fellow researchers consider findings as dependable and trustworthy. Based on Bryman (2008), the reliability and validity of a study are critical in establishing the quality of social research. It is emphasised to clarify that reliability may be defined as the consistency of a measure, whereas validity relates to the truthfulness of a study's conclusion. Nonetheless, Bryman (2008) also mention that the words and criteria for evaluating and verifying the validity and reliability of data qualitative vary from those used for quantitative research.

According to Patton (2001), reliability and validity are a pair of crucial factors that qualitative researchers must consider when planning a study, reviewing outcomes and assessing study quality. Lincoln and Guba (1985) proposed that the reliability and validity of a qualitative study may be improved by tackling each of the four aspects of neutrality or confirmability, credibility, dependability or consistency, and transferability or application. Furthermore, Golafshani (2003) defined reliability and validity to be integrity, trustworthiness and quality in qualitative study.

In addition, Creswell and Clark (2010) proposed techniques and processes for establishing the validity and reliability of qualitative data, recommending that the researcher employ more than one approach and procedure. The most popular validity procedures are member verification and data integration (Creswell & Clark, 2010). Member verification occurs when a researcher discusses and reviews the summary of his or her results with study participants (Bryman, 2008; Creswell & Clark, 2010). In the words of Krefting (1991), member validation is a method of actively involving participants in a study process by motivating them to evaluate the results. The researcher followed Creswell's (2005) suggestions to guarantee that the themes created from the first analysis matched the comments gathered from the participants.

During the interview session, the observer focused on clarification queries to the participants. The observer recorded and documented notes while also summarizing the primary themes and developing ideas or topics in notes format. The researcher then confirmed all of the notes that were written with participants while providing them the chance to review, provide input and validate the notes before concluding the interview sessions. The criteria used were designed to guarantee that the researcher's interpretations were proper and accurate.

Based on Liangputtong (2009), triangulation may be defined as the employment of two or more data sources, techniques, investigators, theoretical viewpoints and analytical approaches in the study of a single phenomenon, as well as another strategy for ensuring the reliability and validity of qualitative research. Triangulation may also be described as the mixing and combining of information from several sources in order to validate obtained facts and develop concepts (Carpenter & Suto, 2008). According to Denzin (1989), social science researchers use four forms of triangulation which are methodological, theoretical, data and investigator triangulation.

Padgett (2008) stated that the author of the paper used investigator triangulation to combine the data in the current study by watching or analysing the same research conditions. It happens when numerous researchers cooperate as a team to do a study on an understudied or the same subject. In a similar vein, Carpenter & Suto (200*, p.153) claimed that the presence of several researchers each of whom contributes to data gathering or analysis, might be considered as advantageous since their diverse viewpoints can improve the research output. Aside from that, interactions with numerous experts were held continually during the study process. Then, all of the recommendations and criticisms were cautiously addressed, allowing for the triangulation of developing themes.

In the current study, the researcher stated that postmodern academics disagreed with the word triangulation since it requires just three ways of seeing the world. Merriam (2002) explained that the word crystallization was chosen since the researcher acknowledged that there are many more than three perspectives from which to see than universe. The extensive literature review, interviews and conversations with several researchers all contributed to the data's clarity.

To improve the dependability of the interpretations tested in this study, the researcher used consistency by carefully formulating the research questions. Notably, the researcher was held accountable for thoroughly, extensively and properly gathering and displaying the data. Subsequently, in order to ensure the research's credibility, the researcher indicated the connection with the participants, completely detailed the people they interviewed and the places, wrote extensive field notes on the interviews and thoroughly documented the data-collecting techniques. Qualitative research can achieve high levels of dependability (Morgan & Drudy, 2003). They also noted that achieving high levels of dependability may be accomplished by documenting the steps involved in data generation, processing and interpretation.

3.8 Data Storage

All interviews have been recorded in the form of audio. The electronic recordings were saved on a personal, locked with a password the disk for safekeeping. The tapes were also saved on online storage services like Dropbox and Google Drive. The interviews that were transcribed were saved on a secured by a password personal, private computer and backed up on a protected by a password personal, private external hard disk.

The reminders and note-taking files were saved on a secured by a password personal, private computer and then backed up to an encrypted by password personal, private external hard disk. Both the transcribed interviews, notifications, and note-taking files were saved in cloud storage services like Dropbox and Google Drive. Backups were created every time data was uploaded. The data entered into the transcription files were likewise encrypted with a document password. All handwritten papers, including signed consent agreements and file notes, were kept in a file and placed in a secured filing cabinet viewable only to the researcher.

3.9 Ethical Consideration

This study emphasised the awareness level among high-risk populations on HIV especially those who are engaging in and experiencing risky behaviour conduct on the East Coast of Malaysia. Specifically, all participants were requested to freely engage in the study. Prior to the interviews, each participant was provided with a permission form to sign. Additionally, each participant received a letter of invitation that provided information about the goal of the study.

Each participant was given notice prior to the beginning of each data-collecting process that their involvement was entirely optional. They are granted the authority to withdraw their consent at any moment and request that their data be destroyed. Aside from that, they noticed that their information was only going to be utilized for the purposes of this study and that the researcher was responsible for deleting the data five years after the study's end. Participants were also notified of their entitlement to seek transcripts of the interviews and to remark on the data for additional clarification if they considered it necessary.

The researcher is strongly advised to maintain the confidentiality of the subjects when conducting a qualitative study (Bogdan & Biklen, 2007). In this regard, the researcher protected participant's privacy by utilizing pseudonyms and omitting identifying information. The participant's names were not used and demographic information was obtained just to ensure that the participant met the demographic criteria for this study

3.10 Conclusion

This chapter provides a systematic description of the researcher's study approach. The study used a qualitative approach. The field research will confirm and enrich the main themes, themes and sub-themes, with participants offering valuable input on the interview techniques. This chapter additionally covered data collecting and analysis processes. The data analysis results are reported in the following chapters.

CHAPTER 4

4.1 Introduction

In this chapter, the researcher reports and discusses responses documented by the respondents throughout the interview. It begins with an overview of the basic demographic profile. Then there was continued discussion on responses given by the participants.

4.2 Demographic's Profile

Table 4.1 demonstrates the detailed descriptive statistics of the demographic profile involved in this study. It is shown that most participants (100%) are students from the government's highest educational institution located on the east coast of Malaysia. Whereas, 66.6% or 4 participants are from Machang and the rest (2 participants or 33.3%) study in Kota Bharu. In terms of age, there is one participant in each age of 19, 20 and 21 years, another 3 are 22 years old. However, 100% of the participants involved in this study were men, and no women or transgender were recruited.

The majority of participants agreed that they are well-known in knowledge about safety sex practices. However, just only 4 of them practised that knowledge in their sexual activities and another 2 of the participants did not practice safe sex during homosexual activities. On the frequency of involvement in sexual activity, more than half of participants agree that having sex 2 times per month. However, one of them just performs sexual activity once per month and another is not engaging in any kind of homosexual activities.

Table 4.1
Demographic profile (n-6)
Demographic profile of respondents.

Description	Frequency	Percentage
Vacancy		
- Student	6	100
- Non-student	-	-
Location of living		
- Machang	4	66.6
- Kota Bharu	2	33.3
Category of age		
- 19	1	16.6
- 20	1	16.6
- 21	1	16.6
- 22	3	50.0
Type of gender		
- Male	6	100
- Female	-	-
- Transgender	-	-
Safe sex knowledge		
- Yes	6	100
- No	-	-
Practising safe sex		
- Yes	4	66.6
- No	2	33.3
Frequency for having sex/month		
- 4	1	16.6
- 3	-	-
- 2	4	66.6
- 1	-	-
- non	1	16.6

4.3 The Emergent Theme From The Research Findings

This section will be held on the discussion of the responses gathered from 6 participants regarding HIV knowledge and prevention among high-risk population study on the east coast of Malaysia. There are 3 themes were created in this study which consist of awareness of HIV, sexual health understanding and habits and HIV screening and management strategies to empower the knowledge and minimise the risk of infection.

4.3.1 Evaluating HIV Awareness Across High -Risk Population

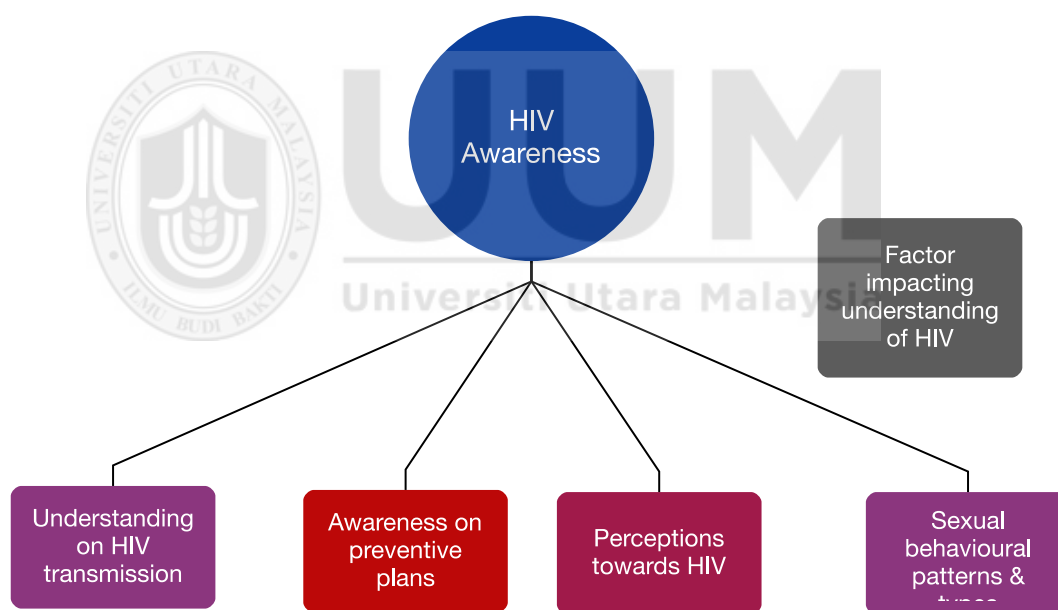


Figure 4.1

Theme and sub-theme 1

Generally, the study found that all participants were familiar with HIV diseases. However, most of them know that HIV is a disease caused by virus infection. An estimated 16.6% or 1 participant showed a misconception about the causes of HIV respondent 3 stated that:

“I think the HIV disease is caused by bacteria infection because it has occurred among the homosexual population that is practising random sexual activity which involves penetrative sex via anal. The Anal is a dirty part which consists of many types of bacteria”.
[R3, male]

However, respondent 6 also found that uncertainty of answer while stating:

“I think that HIV is a disease carried by virus”. [R6, male]

Moreover, the researcher found that they are aware that HIV is a disease that can be treated by medication. Otherwise, this disease can also cause death due to many complications. This statement about how HIV can be treated is mentioned by the majority of respondents.

“... taking PreP can prevent HIV infection.” [R1, Male]

“I think to practice safe sex practices such as by using condoms and taking PreP.” [R2, male]

“I know about PreP via reading”. [R2, male]

“HIV is a disease that can’t be cured but able to control via taking of medication.” [R3, male]

“If a patient is infected with HIV viruses without proper treatment, it can lead to death but if otherwise, their life spans will be prolonged and controlled their infection development.” [R3, male]

“HIV can be treated by taking pills while they need to consumed for their entire life.” [R3, male].

“HIV is a type of disease that no medication for cure but only to control their virus development in the body to prevent become worst.” [R4, male]

“if infected by HIV, their health status will be decreased and lead to death if no proper treatment.” [R6, male]

4.3.1.1 Factors Impacting Understanding Of HIV

In the sub-theme on a theme of knowledge of HIV, the researcher found that there are a few factors that impact on understanding of HIV across respondents. There are involves of HIV transmission, preventive plans, perceptions towards HIV and sexual behavioural patterns and types. According to Kabapy A. et al. (2020) was mentioned that to have great preventive strategies, it is important to be aware of HIV risk factors which produce a safety practice indirectly. This statement is also supported by Zhang L. et al. (2022) found that good HIV awareness and good attitudes are crucial for HIV prevention, especially among students. As a result, the researcher will go further on the elements that are regarded triggers in understanding HIV.

4.3.1.1.1 Understanding On HIV Transmission

The mood of transmission is an important point in disease to understand how it can be transferred to others. Basically, all respondents know that the main transmission of HIV is via random sex and homosexual activity. This was demonstrated during the interview session, in which mostly mentioned this issue.

“It was gained via sexual intercourse, mother-to-baby via breast milk and genetic.” [R1, male]

“HIV is a disease that can be spread via sexual intercourse.” [R2, male]

“It is caused by engagement in homosexual activity, sex with animals as well as random sex for those on irregular partners.”
[R3, male]

“HIV is a disease that occurs among random sex practitioners and spreads via blood.” [R4, male]

“HIV disease is synonymous with homosexual activity. It’s also easier to spread for those involved in random sex, sexual activities without protection and irregular partner sex.” [R4, male]

“HIV can infect others through wounds, random sex activities and sharing needles.” [R6, male]

In terms of the mood of transmission, HIV is also able to be transmitted through the exchange or exposure to certain human body fluids such as blood, semen, vaginal secretions and breast milk. Respondent 5 have mentioned that:

“An individual can be infected by HIV if exposed to the body fluid like semen, saliva and infected blood.” [R5, male]

The Researcher found that respondents 1 and 3 mentioned that the viruses of HIV can’t transferred by touching. The statements of both respondents were addressed are listed below:

“HIV can’t infect others via saliva, sharing things such as a towel, comb, etc”. [R1, male]

“It can’t be infected by touching.” [R3, male]

In general, there are answers very well about the mood of transmission although there are notice slight misconceptions about their responses such as transferred via saliva, etc.

4.3.1.1.2 Awareness Of Preventive Plans

Preventive measures are very crucial in combating HIV infection worldwide. The Ministry of Health Malaysia has shown that an effective prevention plan significantly decreases infection among intra-vena drug users. However, the trend currently changes toward sexual and the need for drastic action to prevent more worsening. The majority of respondents know that it is preventable by using a condom during sex. For instance, the responses of respondents who addressed that issue are:

“... practising safe sexual intercourse such as using condoms and taking PreP to avoid infection.” [R1, male]

“I think is necessary to implement safe sex practices such as condoms and take PreP.” [R2, male]

“practising safe sex such as using a condom.” [R4, male]

“... to avoid HIV need to use protective equipment such as condoms during sex.” [R5, male]

During conducting an interview, 5 of 6 respondents knew about PreP. However, all of them are not on PreP even though classify as high-risk populations. For example, the respondent's overview on PreP are:

“Prep is a medication that is used for a non-infected individual and can reduce the risk of infection after exposure.” [R1, male]

“Prep is a preventive treatment to ensure that certain people while exposed to the viruses can't be infected.” [R6, male]

Meanwhile, respondent 3 doesn't know about prep at all. During the interview, he just to know that we have prep for prevention action. However, respondent 3 suggested a conventional method to prevent the infection. He respondent 3 that:

“After finishing the sexual activity, especially for the bottom need to clean up all the semen that was injected into their anus by the top.” [R3, male].

This misconception needs to be clarified that still at risk to the guys for infection event they are cleaning up the whole semen on the anus. This is because the sperm can enter the body via wounds or tears during intercourse in just a few seconds.

4.3.1.1.3 Perceptions Towards HIV

The perception among HIV patients is very high worldwide. Even in Malaysia, it remains traumatic to the patients as well as their family members. Therefore, the perceptions towards HIV are a crucial part to be solved to ensure the treatment and prevention can be enhanced. The most important part is family perception while proper and early treatment for HIV can save the life. For instance, statements that refer to the unwell perception toward HIV are seen in respondents 1 and 4.

“I think it depends on the situation. I'm sure that they need some space and time to adapt to the situation while I have been diagnosed positive for HIV.” [R1, male]

“I would not tell the family about my status because of fear. It is also due to the causes of this disease being sexual and its stigmatism in my family.” [R4, male]

However, respondent 6 also stated that he had heard about that situation and they could not accept their other members on this status. It is also reflected in the family's perception towards HIV infection.

"I had heard the story that was shared on Twitter based on their experience of family rejection after knowing their HIV status."
[R6, male]

In the deep of that, all respondents agree that the most critical perception towards HIV is stigma. The study in South Africa finds that HIV stigma is highly linked to symptoms of depression among persons living with HIV which are females and young adults being at greatest risk (Maclean J. & Wetherall K., 2021). Otherwise, in Thailand, discriminatory attitudes and HIV stigmatising towards people living with HIV have declined however it is a concern that needs to be empowered through awareness campaigns and public education continuously (Chautrakarn S. et. al., 2023). Based on Abdullah A. et al. (2019) found that in Malaysia, HIV stigma is strong with a mean score of 104.7 ± 19.5 especially among jobless and antiretroviral-treated patients. Meanwhile, the barriers to reaching treatment in Malaysia are related to social factors such as homosexuality and HIV stigma (Lim S. et. al., 2019). For instance, the respondent's overview regarding stigma are:

"I agree to provide a privacy concept of HIV screening in IPT health units to prevent the stigma for those doing that and feeling discomfort during this test." [R1, male]

"I think if a special clinic regarding HIV is created able minimise random sex among them and stigma for those reach to the treatment." [R2, male]

"I chose underground services care to avoid stigma and shame. If this situation happened, this patient would be running away or distancing themselves from this screening." [R4, male]

4.3.1.1.4 Sexual Behavioural Patterns And Types

Behavioural in sexual are subjective depending on individual needs and perceptions. Even though they know about sex, most of them still ignore that to achieve sexual satisfaction. It realised while all participants in this study were considered well-known about safe sex activity, half of them still had not implemented their risky activities.

In terms of sexual types and roles, mostly they are chosen to become top partners. However, some of them had also experienced being as the bottom role. As much as 5 of 6 respondents declare that their sexual roles are versatile and can be a top or a bottom depending on the situation.

“my sexual orientation is a homosexual and versatile top.” [R2, male]

“my sexual orientation is versatile, if have a partner as a top in sexual orientation, should prefer non-penetrative activities, otherwise it depends on the bottom partner either preferred for penetrative or non-penetrative sex.” [R3, male]

“Usually, I’m choosing to be a top partner, but here no heavy sex activity is done.” [R5, male]

“I’m versatile but more to top in sexual orientation. I experience being a bottom but prefer to be a top because of the highest sexual satisfaction.” [R6, male]

Besides, some of the respondents mentioned that they are more preferred to perform “lite activity” also known as “side”, for example, are:

“I only do lite activities.” [R1, male]

“I prefer to have lite activities such as kissing, nipple play and blow jobs.” [R3, male]

Most of them also use porno videos to fulfil their satisfaction. Some of them use those videos to guide their activities or learn from them. Respondent 6 clarified that:

“Besides, I watch porno videos as well.” [R6, male]

4.3.2 Promoting Sexual Health Understanding And Habits Across High -Risk Population

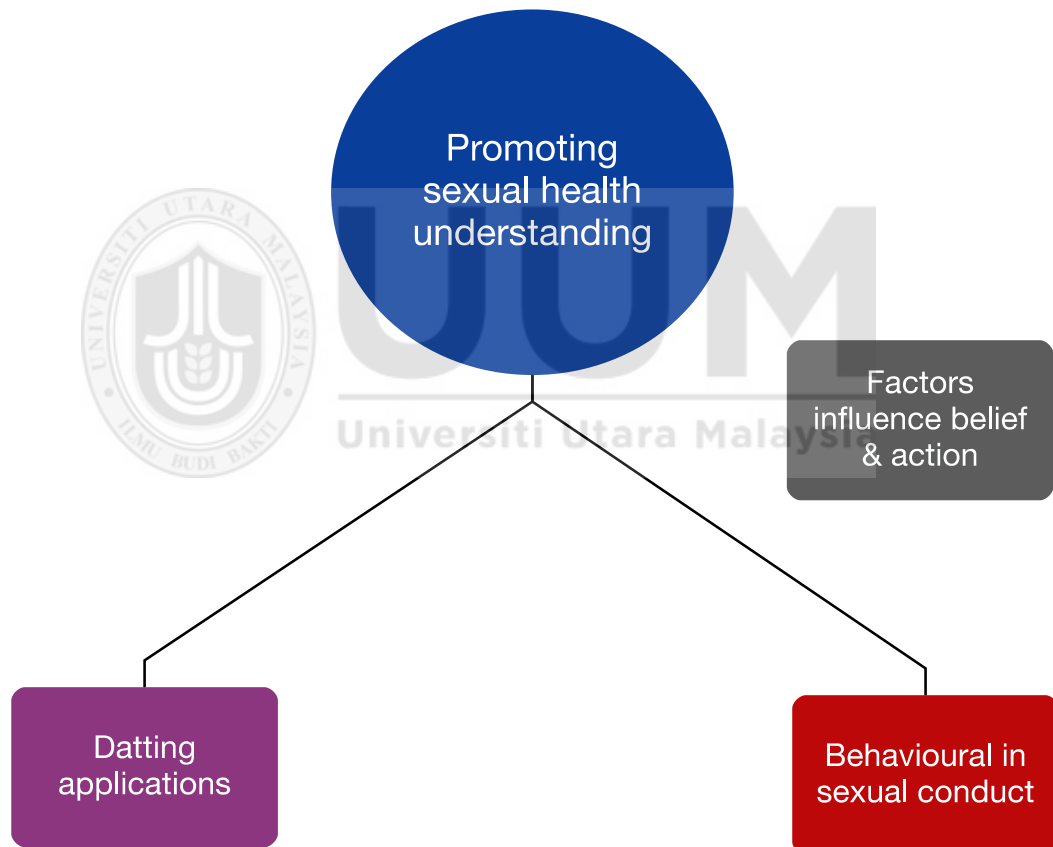


Figure 4.2

Theme and sub-theme 2

Secondly is promoting sexual health to enhance knowledge as well as their attitude toward risky activities. The bad habit can lead to unhealthy behaviour. For instance:

“Like others, I am exposed to sexual activities because of feeling to try and know. After that, I want to experience that kind of activity with a partner. Mostly for those who have sexual partners, they would be begging to do it.” [R1, male]

“At first, we just doing ‘lite’ activities only. After that, we want to try something new for more adventure and satisfaction. For that reason, I’m feeling love on that and addicted.” [R5, male].

“while in secondary school, my friend asked me to join porno videos with them. After that, we try to imitate the action in the video. At the moment, my friend and I try doing ‘lite’ activities such as blow jobs on 69 position.” [R6, male]

Otherwise, an insufficiency of understanding of sexual health issues leads to engagement in this kind of activity. Especially for those confused between facts and myths. for example, can be seen on respondent 3 while can be categorised as low in HIV knowledge compared to others.

“I’m not sure, but I think that HIV is caused by bacteria because linked to homosexual activity. They like to doing sex via the anus. Anus is a part of dirty and placed with many types of bacteria.” [R3, male]

“I think that HIV can’t be transmitted via touching however it can affect others via sharing the glasses via saliva exposure. Besides, I’m also not sure that HIV can be transmitted to others via sharing the cloths but it may be possible for those who shared the towels with HIV-positive patients.” [R3, male]

“Maybe HIV is more severe compared to AIDS.” [R3, male]

4.3.2.1 Factors That Influence Belief And Actions

The factors that influence belief and action can be subjective. It is influenced by a variety of factors such as background of education, socioeconomic status and many more. In this study, the researcher would begin the discussion on sexual conduct, dating apps, and health education. On this sub-theme, the discussion closed with the sexual health services factor. Respondents 5 and 6 for an example of the influence of action toward unhealthy awareness of sex.

“It started with lite activities, and after that, the feeling of knowing and experiencing having sex was enjoyable rise on me. This situation promotes to addicted for that activity at the end.” [R5, male]

“I try to engage in this activity by approaching the members through sleep together. If positive feedback is shown, it is a reference that guys also love it too.” [R6, male]

Otherwise, the belief also can affect the actions of some individuals. It might be started by ridicule by others. This can be demonstrated by respondent 3 as stated below:

“I started on this activity because of taunting friends as a feminisation in personality. They also labelled it as a gay person. From there, I try to explore the world of homosexuality and as a result, attracted to men.” [R3, male]

4.3.2.1.1 Dating Applications Towards Sexual Activities

Nowadays, digitalization has grown fast to assist in work life. Digital can be assessed anytime anywhere unlimited. Therefore, managing the resources is very important to ensure digitalization benefits humanity. Digitalization may assist in accomplishing sustainable development goals in multi-sector, as well as improving health and tackling biodiversity and issues related to climate change (Mondejar M. et. al., 2021).

In terms of factors that contributes to homosexual activities on digitalization is dating applications. Many developers out there create chat applications for that kind of reason including dating apps for homosexual activities. This situation was demonstrated via interviews in this study while most of the respondents agree that dating apps are a medium for them to engage in these activities.

“There are many dating apps that I use such as Grindr, Blued currently known as HeeSay and Telegram as well.” [R2, male]

“Grindr is a apps that produce a space for subscribers to chat with others. Meanwhile, HeeSay apps promote advanced service which is “live” streaming. Otherwise, Telegram is a chatting app which can be created for large numbers of members in a group, especially for the homosexual population.” [R2, male]

“Since I on 16 years old (form 4), I have tried to download a game application on my smartphone but I saw this app (Grindr) and tried it. After that, I tried to explore this app and use it. From there, I contacted many others on this app and decided to meet them. At this moment, I am in form 5.” [R3, male]

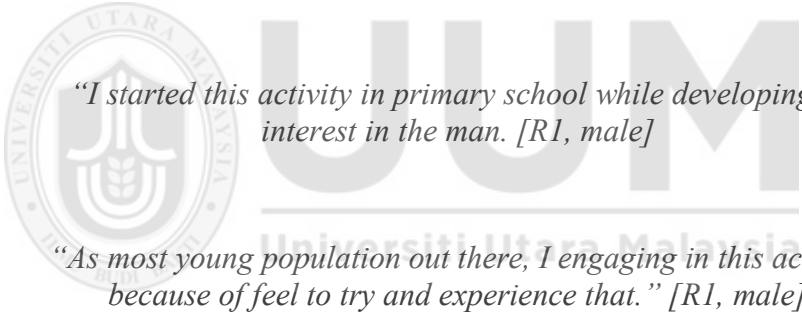
“Apart from Grindr, I also use other applications like Blued and Tinder. I tried to use Tinder for homosexual purposes. I love to use Tinder compared to other apps due to the extra safety protocol on this app. For example, to ensure our identity is real, we need to upload at least three pictures for confirmation of identity before sharing it with others. If unrecognised, it’s unsuccessful to trade the pic with others.” [R3, male]

“I am a Grindr user because many people are using it. Besides, it is easier to access and deal with these activities.” [R5, male]

“Either Grindr, I am also used to Blued. I love this app because a lot of the nearest profiles around me and is easier to contact. Otherwise, Blued apps have more limitations and are not familiar to the community here.” [R6, male]

4.3.2.1.2 Behaviour Patterns In Sexual Conduct

On top of that, another factor that can contribute to sexual conduct is behaviour patterns. Moreover, the behaviour is subjective for each participant, it can be seen the variety of that such as engaging in this activity due to their willingness to try to do something new. The relevant quotes are;



“I started this activity in primary school while developing of interest in the man. [R1, male]

“As most young population out there, I engaging in this activity because of feel to try and experience that.” [R1, male]

“I engaging in this activity is due to my willingness to experience that. After that, the feeling enjoyable in this activity makes it addicted and looking to achieve the highest satisfaction.” [R2, male]

“Judgment among friends in school for those on feminine characteristics is gay. Because of that, I try to explore homosexuality and make it interesting to man.” [R3, male]

“Actually, I was involved in homosexual activity from secondary school. I exposed it when I stayed in the hostel. On the night, my senior was coming to me and touching my private part. Resulted, I’m addicted to sex.” [R5, male]

“I started to be involved in homosexual activity when I was in secondary school. At that moment, I stayed in the hostel.” [R6, male]

“I engage in this activity by approaching others while sleeping together and hugging them. If positive feedback comes out, remarkable as they also have the same interest toward man.” [R6, male]

4.3.3 HIV Screening And Management Strategies For High-Risk Population

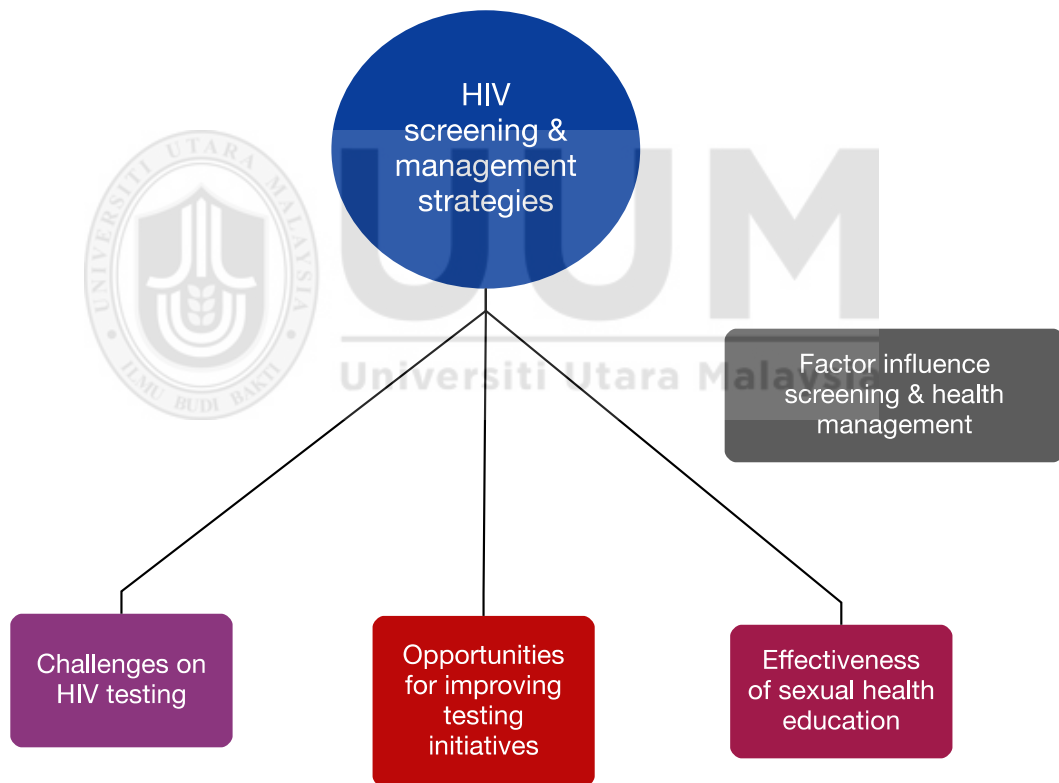


Figure 4.3

Theme and sub-theme 3

According to Neilan A. et. al. (2020) mention that routine HIV screening especially every three months can enhance clinical outcomes and is cost-effective for vulnerable young males who engage in homosexuality in the United States. A little over half of Malaysian transgender women (47.6%) want to undertake HIV self-testing with greater interest in those at higher risk of infection (Shrestha R. et. al., 2020). Recommended for screening usually within 18 to 90 days after an exposure to viruses which is the lab test detects that on day 18 to 45 days after.

Inclusively, HIV screening is recommended every 6 to 12 months. However, those with multiple sex partners or a partner diagnosed to have HIV positive have to be recommended to have regular check-ups. Respondents 5 have to state that:

“Regular health check-ups are reflected in HIV screening. As long as for every 3 months to confirm the status especially for those is categorised as high-risk community.” [R5, male]

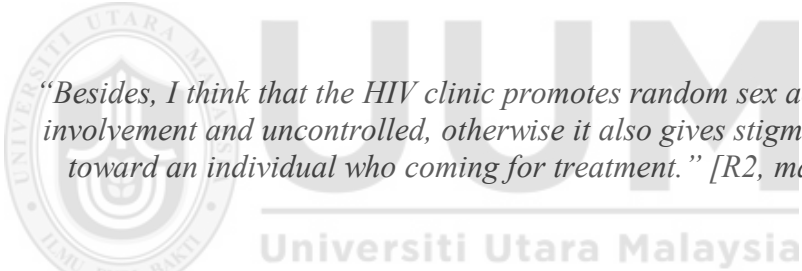


4.3.3.1 Factors That Influence Screening And Health Management Compliance

The sub-theme emerged in factors that influence screening and health management compliance involves of challenges to HIV testing, opportunities for improving testing initiatives and the effectiveness of sexual health education. In the following section, the researcher will elaborate on each category with suitable quotations from each respondent.

4.3.3.1.1 Challenges To HIV Testing

HIV tests are quite sensitive among most people in Malaysia especially. It is related to the stigmatism toward them either created by healthcare workers or others. Therefore, some people with high-risk behavioural fear performing HIV screening, especially in healthcare clinics. Here are some of the respondent's quotes regarding HIV testing:



"Besides, I think that the HIV clinic promotes random sex activity involvement and uncontrolled, otherwise it also gives stigmatism toward an individual who coming for treatment." [R2, male]

"I will reach treatment but try to get assistance from any healthcare provider from MOH which is known to each other to ensure our identity does not spread to others." [R3, male]

".... Even though the data of patients is private, as students we feel uncomfortable with that situation." [R3, male]

"I think that HIV screening is more suitable for underground services." [R4, male]

"I fear for leaking on my identity while I'm still here as a student." [R5, male]

Therefore, based on the quotes above show that those who are involved in high-risk sexual conduct are more likely to underground screening compared to in-house screening. They were worried about the labelling of society and stigmatism which can affect their study and life performance.

4.3.3.1.2 Opportunities For Improving Testing Initiatives

Proactive screening for HIV prevention refers to forward-looking tactics and strategies that attempt to increase HIV prevalence while also minimising transmission of viruses. This is also a complex method that combines indicators that boosts HIV testing rates (Shi Y. et. al., 2021), facilitates early intervention and treatment (Dave s. et. al., 2019), reduces stigma (Nelson L. et. al., 2021) and promotes HIV preventive behaviours in communities (West R. et. al., 2021). It was parallel to the response's initiative as quoted below:



"I suggest a mandatory test for HIV implemented for all students upon registration in university. Currently, this test is only compulsory for those in health sciences program." [R1, male].

"In my opinion, have to do a closed or semi-closed campaign to improve the awareness on mass media such as TikTok and Instagram and closed consultation for further steps. For instance, I approached the Grindr app and set a meeting for screening tests and closed consultations." [R2, male]

"Recommended for improving HIV campaign to enhance the knowledge. Besides, the government must provide HIV test kits for free." [R3, male]

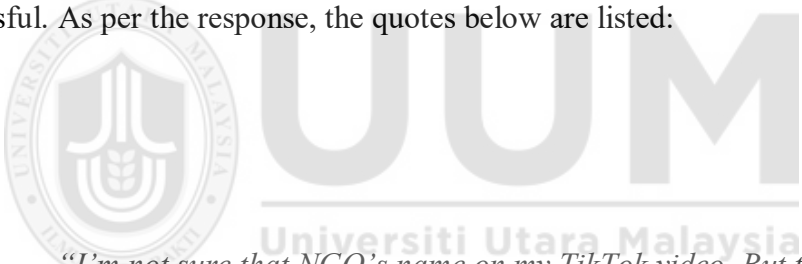
"In my point of view, there needs to be an increase in the number of awareness campaigns regarding HIV. A few times ago, such a campaign popped out as television advertising. Additionally, can be implemented on other mass media such as TikTok, Twitter and Facebook platforms." [R4, male]

“needs for HIV awareness campaign via multi types of mass media platform such as TikTok and Instagram.” [R5, male]

“..... adding new subject and syllabus on awareness. The syllabus must be on general wellness issues not specifically to HIV.” [R6, male]

4.3.3.1.3 Effectiveness Of Sexual Health Education

Intervention in health education is identified as the most effective method to improve awareness among students of HIV (Tulza K. et. al., 2020). In addition, Farahani F. et. al. (2020) found that a grounded theory of educational intervention on preventing HIV/AIDS dramatically increased young adults' HIV knowledge and awareness, attitudes, personal norms and sense of control over their behaviour, lowering their risk of infection. It should not be put on the government effort totally but have to carry out these tasks together as a social responsibility to be shouldered to make it effective and successful. As per the response, the quotes below are listed:



“I’m not sure that NGO’s name on my TikTok video. But these individuals were transgender usually called “mak nyah”. This person continued to share the info regarding HIV such as what should be done to avoid infection. In the meantime, he also shares the consequences steps that should be known for those newly diagnosed as positive for HIV.” [R1, male]

“I know that Prep can be taken on any health facilities either private or government. However, there are registered NGOs prepared for those in risky activity.” [R1, male]

“I’m not looking forward to any kind of information regarding HIV infection directly. However, if popped out in my mass media, I’m further confirming. Otherwise, if I’m watching a movie about HIV, I’m revising that issue for further information.” [R2, male]

“Through my reading, that is needed for flushing with non-infected blood. Otherwise, it also has pilling treatment which is needed for consumption for the whole life, there are no medications for cure currently.” [R3, male]

“Every person needs to know about their surroundings, especially about HIV infection such as the risk and how HIV happens. Indirectly, every single person must enhance their knowledge on this issue.” [R4, male]

“I think that Prep is a type of medicine for those on the high potential population to avoid the HIV infection.” [R5, male]

“I know about prep via the TikTok platform. Otherwise, for further info, I go through searching engine on Google.” [R6, male].

4.4 Conclusion

This chapter looked over the findings from an interview with 6 respondents. In the next chapter, a discussion will be held on limitations and future research directions will be conducted.

CHAPTER 5

5.1 Introduction

This chapter elaborates on the results of the study. The discussion begins with the general findings of the study. It was continued with limitations faced throughout conducting these studies. The future direction of the research also will be discussed in this chapter and end with a simple conclusion.

5.2 Discussion Of The Study

Specifically, the discussion would be focused on knowledge regarding HIV and sexual health understanding and habits among high-risk populations. This sub-topic would be ended by discussing HIV screening and initiatives would be implemented to enhance the result.

5.2.1 HIV Awareness And Knowledge

This study found that the high-risk population had a sufficient understanding of HIV in general. It was discovered that six of six respondents said “Yes” to the question of knowing about safe sex practices. Unfortunately, there are two of the six participants still have not implemented their knowledge of safe sex practices during activities even though they know the importance of that. This situation would expose them to infection if continuously ignored. In fact, the majority of the respondents agree that having sex 2 times per month or equal to 1 time in each 2 weeks on average.

In fact, qualitative analysis indicates that interviewees are knowledgeable about HIV. It is also demonstrated that research participants understand and are aware of the primary modes of HIV transmission. Most respondents can state the differences between HIV and AIDS as well as know of an untransmittable pathway of HIV. This

is significant since the outcomes of these studies are consistent with other research findings among the young adult population worldwide (Zhang T. et. al., 2019; Maziz M. et. al., 2019; Shamu S. et. al.; 2020, Amparado M., 2020; Aljadhim A. et. al., 2022). However, there is still a lack of knowledge and misconception among respondents on HIV and the mode of transmission. For instance, the respondent mentioned that HIV is caused by bacteria and transmitted via sharing glasses and clothes. This was also consistent with a few studies stating that needs for more attention to empowering awareness and excluding misconceptions (Mansor N. et. al., 2020; Lee S. & Yeo K., 2022; Frances E. et. al., 2023).

This study discovered that a significant number of those who responded were completely knowledgeable of HIV in terms of severity, pathological, pathophysiological and probable cause. More than half are known that blood screening can discover HIV infection. It is also good enough that HIV and AIDS are caused by similar pathogens as well. This was parallel to the other studies that demonstrated a similar finding (Keswani M. et. al., 2019; Chong S. et. al., 2021; Onyemachi P. et. al., 2023; Olorukooba A., et. al., 2023). In a study of 18 to 25 years olds from six European Union countries (EU) which consist of Austria, Germany, Italy, Poland, Slovak Republic and Slovenia) demonstrated that 76% correctly stated that HIV/AIDS may be treated with certain medications but not totally cured (Netzelmann T. et. al., 2007). An empirical study conducted in the Czech Republic found that teenagers had a strong understanding of HIV transmission routes (Rabu L., 2003).

Unfortunately, this current study showed that there remain many misconceptions about HIV. For instance, this study found that some of them mentioned that “HIV cannot be transmitted for those engaging in oral sex”. Another example is that, was discovered that most of them were not sure about sharing toilets and clothes not causing infection. Previous researchers addressed the same problem. In this regard, a few researchers discovered misunderstandings regarding HIV transmission through mosquito bites, shaking hands with infected individuals, using public toilets, etc (Duteil C. et. al., 2019; Samarakoon T. et. al., 2020; Fenomanana J. et. al., 2021).

In general, misunderstanding relating to HIV encompasses fear of picking up the viruses by sharing utensils with infected individuals, transmission through mosquito bites and the assumption that infected individuals will have symptoms (Samarakoon et. al., 2020). A great extent of misconception spreading regarding HIV transmission among the public can cause anxiety and social isolation toward those living with HIV (Durteste M. et. al., 2019; Armoon B. et. al., 2021; Fauk N. et. al., 2022; Mukminin M. et. al., 2023). Moreover, myths regarding HIV transmission can lead to stigma and prejudice against those living with HIV/AIDS (Alemi Q. & Stempel C., 2019; Abdullah A. et. al., 2019; Suantari D., 2021; Dhoar S., 2021; Galvao K. et. al., 2021; Muda M. & Yusoff N., 2022; Chan H. et. al., 2022; Kumar V., 2023).

Surprisingly when this study discovered that the majority (5 over 6 respondents) know about HIV treatment and prevention pills which are known as PreP. The respondents realised that HIV infection is not too horror life anymore, there are proper medications provided either in government health facilities or private to slow down the activation of the viruses once infected. The researcher found that most of the respondents knew that PreP is a prevention pill for those having exposure to HIV infection, especially random sex activities, MSM population, etc. NGOs play a crucial role in enhancing the knowledge in mass media currently by sharing tips and experiences with the public (Fu J. & Zhang R., 2019; Abidin N. et. al., 2022; Sikazwe I. et. al., 2022).

The result of this study also shows that the age group is perpendicular to the level of knowledge while they have more accurate knowledge on HIV compared to younger. For instance, the younger respondent in this study is more likely to develop more misconceptions compared to the others. Thus, the study showed that in the assumption that they will be exposed to HIV viruses by being sharing clothes with the infected HIV person. These results are supported by the previous study which sufficient HIV knowledge among young adults aged 18 to 24 years is significantly associated with residency and education of level (Moyo E. et. al., 2022). In Malaysia, is supported by the previous study which found that HIV/AIDS knowledge and awareness among Malaysian young adults is moderate with a scoring mean of 20.1 out of 32 points (Wong L. et. al., 2008).

5.2.2 Sexual Health Understanding And Attitudes

According to World Health Organization (WHO) describes sexual health primarily as the absence of functional disease or handicap, nevertheless as a condition of comprehensive sexual well-being in emotional, physical, psychological and social dimensions. Interruptions in sexual health function, especially represent one of the most essential aspects of overall health, may trigger physical and psychological suffering (Mollaioli D. et. al., 2020). In addition, adolescents and young adults are the period with the greatest potential for developing incorrect ideas, attitudes and behaviours concerning sexual and reproductive health, caused by increasing sexual interest, unsafe sexual activities and unexpected pregnancies (Deshmukh D. & Chaniana S., 2020; Guzzo K. et. al., 2020). Therefore, enhancing knowledge and good social support important to ensure safer sexual behaviour among adolescents and young adults be created (Hastuti P. et al., 2023).

The study found that understanding sexual health among respondents was sufficient. This was indicated in the participants who responded to the question “yes” on safe sex practising knowledge. As regards, sexual satisfaction is a separate and critical concept in public health that promotes health equity, provides a relevant population indicator of well-being and refocuses public ethics and action (Mitchell K. et. al., 2021). Otherwise, sexual health necessitates an appropriate, respectful attitude toward sexuality and relationships as well as the preservation, respect and realisation of all people’s sexual rights (Blackpool J., 2021).

In the same vein, it was found that more than half of the participants did not implement their knowledge of safe sex into their activities. This situation is critical because most of them are potentially infected with viruses due to unhealthy activities and practices (Tesfaye Y. & Agenagnew L., 2020). In fact, the study discovered that they did not use any protection or prevention strategies to avoid the infection even though realised the risk (Mathias A. et. al., 2021).

Following the interpretation by respondents, high stigmatism toward homosexual practitioners is a major factor contributing to not practising safe sex. Stigmatism can make them fear facing reality and buying any protection gear regarding homosexual activity. Stigma might affect social and mental life, triggering decreased life satisfaction as well as psychological well-being. It was supported by a previous study that stated that higher stigma was linked to lower subjective quality of life (Degnan A. et. al., 2021), psychological distress (Chan R. et. al., 2020), internalised stigmatising beliefs (Chan R. et. al., 2020), social acceptance (Degnan A. et. al., 2021), etc.

In addition, limitations toward assessment were also discovered in this study. Most of the respondents said that the condom was only provided by their partners during the sex dealing process. The researcher found that only one respondent who participated in this study was experienced in buying condoms by himself, and another respondent received condoms from NGOs. Meanwhile, the researcher discovered that condoms can only be sold in the pharmacy while in other states can be sold in many places such as 24-hour stores, etc. Otherwise, the online store is inconvenient for them while staying on campus.

5.2.3 HIV Screening And Initiatives

Early HIV screening and periodically very effective initiatives to combating HIV holistically. Comprehensive and inclusive screening is key to success. It has a positive impact due to improving screening behaviour and perspectives on HIV screening, especially for those in high-risk populations. For this study, the researcher found a positive attitude towards HIV screening respectively. Most of the respondents agreed that HIV screening is important especially among high-risk populations in order to increase awareness and early intervention. However, most of them were slightly worried about the screening approach, while they believed that it could significantly impact their social life and stigmatism.

Additionally, all participants expressed their fears of the stigma linked with HIV screening. This kind of stigma would have a negative impact on their life satisfaction as well as the learning process. It is parallel to the result of a previous study that stated stigma as negative feedback for those volunteers for screening tests and HIV carriers (Tsai A. et. al., 2021; Yang D. et. al., 2021; Yu H., 2022; Mendez-Lopez A. et. al., 2023). Many factors contribute to stigmatization including lack of information, perception toward HIV infection causes behavioural, etc (Yang D. et. al., 2021; Yu H., 2022). Here it also discovered that stigma is still higher among healthcare providers and their own families, which is a factor for screening behaviour (Lim S. et. al., 2019).

Furthermore, most of them raised their issues of concerns about confidentiality and privacy during HIV screening. They believed that their name would be updated as positive for HIV. In consequence, they worried that would be informed of their family regarding the current status. Family acceptance and rejection are more important, most of them were thinking about they are failure to become good soon for both of them and shameless. It was in line with a previous study that concerns the rejection possibility of HIV patients in their families is higher (Ibrahim K. et. al., 2019; Saxena D. & Ukande U., 2023).

As part of the initiatives, participants raised their concerns about implementing mandatory HIV screening among students during their academic registration. This applies to all majors of study as currently implemented for those in health sciences and medicine students. The early screening was not a part of discrimination toward them involved high-risk behaviour and diagnosed positive HIV, but it is more to early intervention, increasing knowledge and awareness. As previous study finding shows that increase in condom use and reduced stigmatizing barriers is significant to increasing awareness about HIV prevention among university students (Lola R. et. al., 2020).

On the other hand, participants suggested an initiative to increase HIV screening behaviour among students by providing a good support system, especially in aiding the new infection students in dealing with these issues. For instance, in the first phase of the diagnostic, mostly they would be touched mentally even though some of them would be exposed to depression and anxiety. Providing more robust support, it was aided them in adapting to the situation without any complications either in education or social life. In line with that, a good support environment would be educating any individual towards the benefits of early HIV screening and enhancing them in dealing with barriers to HIV screening. Lack of social support is identified as a barrier to early screening behaviour and will continue to challenge the other prevention initiatives planning either through government or NGOs. This was similar to the findings in the previous study while peer support is an effective approach in HIV management (Berg R. et. al., 2021).

5.3 Implication Of Practice

In conjunction with these findings, it is critical that initiatives concentrate not only on increasing new cases and screening knowledge but also on addressing other potential challenges to screening among high-risk populations in the nation. Despite of Malaysia's diversified population with diverse cultural and religious origins (Sulong R. et. al., 2019; Ali K., 2022), indicates to combat HIV infections and increase behaviour toward health care must be tailored to local contexts. Therefore, empowering the initiatives is not limited to government facility-based afford is insufficient, so community-based support should be optimised to achieve the government HIV's target, of no AIDS in 2030.

5.4 Limitations Of The Study

The study inclusively on local higher institutions in the east of Malaysia that engage in the high-risk population, however, their views may not reflect for stated of current living and race. The willingness to participate in this study may also influenced their perspectives. In addition, the study may not better reflect the views from the majority of high-risk populations on groups of ages 19 to 29 years due to minimal participation and specifically in nature. Otherwise, the researcher also faced a few limitations while conducting the study such as constrain in time, financial issues and the total of participants.

5.5 Future Research Direction

The section that came before discussed the study's limitations. However, these restrictions provide possibilities for future study lines. The descriptions below represent these paths and provide specific ideas for prospect studies regarding the relevant research topics.

The following recommendations for future research are based on an analysis of existing study data and a discussion of findings in relation to relevant local and international literature.

Starting off, a future study might want to look into the potential extension of this research. As previously stated, the current study has various limitations related to the universality of the results. The following research projects may use a larger sample size to ensure that the findings are reliable and applicable to the global setting. Future research may explore improving the sample size by including people from additional states such as Sabah and Sarawak. Data can also be collected from various age groups to look into accurate and variety of findings in order to generate more information, ideas and insights on the topic.

These issues might be very sensitive and challenging in the Malaysian context. Thus, the researcher recommended the upcoming scholars offer a more comprehensive understanding by adopting exploratory techniques like case studies or focus groups to gain deeper information. The researcher also suggests providing sufficient financial support to ensure the needs during the study can be fulfilled such as providing condoms, lubricants, test kits, etc.

5.6 Conclusion Of The Study

In conclusion, encouraging high-risk individuals to seek HIV screening is crucial in order to support early intervention and medical treatment as well as to reduce the risk of transmission. Otherwise, a lack of understanding about HIV and its stigmatism consequences linked with status disclosure are significant barriers to achieving successful HIV screening and treatment initiatives.



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APPENDIX A

The letter of concern for data collection 1



OTHMAN YEOP ABDULLAH GRADUATE SCHOOL OF BUSINESS
Universiti Utara Malaysia
06010 UUM SINTOK
KEDAH DARUL AMAN
MALAYSIA



Tel: 604-928 7130/7122/7119/7121/7124/7156
Laman web (Web): <http://psucob.uum.edu.my/>

UUM/COB/P-40

27 May 2024

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

DATA COLLECTION

COURSE : RESEARCH PAPER
COURSE CODE : BPMZ69912
LECTURER : DR. ANNUAR ASWAN BIN MOHD NOOR

This is to certify that the following is a postgraduate student from UUM College of Business, Universiti Utara Malaysia. He is pursuing the above-mentioned course which requires him to undertake an academic study and prepare an assignment. The details are as follows:

NO.	NAME	MATRIC NO.
1.	MOHAMAD FAKRI BIN CHE GHANI	830125

In this regard, I hope that you could kindly provide him with assistance and cooperation so that he can successfully complete the assignment given. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance are very much appreciated.

Thank you.

"MALAYSIA MADANI"
"BERKHIDMAT UNTUK NEGARA"
"KEDAH SEJAHTERA - NIKMAT UNTUK SEMUA"
"ILMU BUDI BAKTI"

Upholding the principles of trust and integrity

NURUL NADIAH RUSLE
Assistant Registrar
for Dean
Othman Yeop Abdullah Graduate School of Business

c.c.- Student's File (830125)

Universiti Pengurusan Terkemuka
The Eminent Management University



The letter of concern for data collection 2



OTHMAN YEOP ABDULLAH GRADUATE SCHOOL OF BUSINESS
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Tel: 604-928 7130/7122/7119/7121/7124/7156
Laman web (Web): <http://psucob.uum.edu.my/>

UUM/COB/P-40
27 May 2024

UNIVERSITI TEKNOLOGI MARA (UITM)
Cawangan Kelantan, Bukit Ilmu
18500 Machang, Kelantan Darul Naim

Dear Sir/Madam,

DATA COLLECTION

COURSE : RESEARCH PAPER
COURSE CODE : BPMZ69912
LECTURER : DR. ANNUAR ASWAN BIN MOHD NOOR

This is to certify that the following is a postgraduate student from UUM College of Business, Universiti Utara Malaysia. He is pursuing the above-mentioned course which requires him to undertake an academic study and prepare an assignment. The details are as follows:

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APPENDIX B

Interview Protocol

No Responden
Lokasi Responden



PUSAT PENGAJIAN PENGURUSAN PERNIAGAAN UNIVERSITI UTARA MALAYSIA

Responden yang dihormati,

Terima kasih kerana bersetuju untuk turut serta dalam kajian ini.

Pihak kami sedang melakukan kajian untuk meninjau prevensi HIV pada golongan berisiko tinggi di Pantai Timur Malaysia. Sasaran peserta dalam kajian ini adalah para mahasiswa yang menuntut di pusat pengajian tinggi di Pantai Timur Malaysia. Kami amat menghargai sekiranya anda dapat memberi kerjasama dan menjawab soalan-soalan yang dikemukakan dengan jujur kerana maklumat yang diberikan akan mempengaruhi ketepatan dan kejayaan kajian ini. Bagi tujuan tersebut, anda dikehendaki jawab berdasarkan pengetahuan, pandangan ataupun pengalaman anda sendiri bagi memastikan ketepatan hasil kajian dapat dikekalkan. Kesemua jawapan akan **DIRAHSIAKAN** dan akan hanya digunakan untuk tujuan kajian ini sahaja.

Sekiranya anda mempunyai sebarang persoalan berkaitan kajian ini, anda boleh menghubungi kami seperti maklumat yang tertera dibawah.

Terima kasih di atas kerjasama dan masa yang anda berikan untuk menjawab soal selidik ini.

Yang benar,

Mohamad Fakri Che Ghani
Pelajar Msc. OSHM
Universiti Utara Malaysia

Master Science of Occupational Safety
and Health Management (MSc. OSHM)

Phone: 0196691992

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PROTOKOL TEMUBUAL

Prevensi HIV dalam kalangan berisiko tinggi di
Pantai Timur Malaysia



Maklumat Responden (Sila (/) dan isikan jawapan berkaitan)

1. Umur : _____ tahun
2. Jantina : ☐ Lelaki / ☐ Perempuan
3. Adakah anda mempunyai pengetahuan yang baik mengenai amalan sex
selamat (safe sex practice) : ☐ Ya / ☐ Tidak
4. Adakah anda mengamalkan seks secara selamat? ☐ Ya / ☐ Tidak
5. Berapakah kekerapan anda melakukan hubungan seks dalam seminggu?



Maklumat Responden (Sila (/) dan isikan jawapan berkaitan)

Soalan 1 : Menurut pengetahuan / fahaman anda, apakah yang anda faham tentang HIV?

Soalan 2 : Bagaimanakah anda terjebak dalam aktiviti seks?

Soalan 3 : Apakah yang patut anda lakukan bagi memastikan anda tidak dijangkiti HIV?

Soalan 4 : Bagaimanakah cara anda untuk meluahkan perasaan sekiranya terdapat masalah berkaitan dengan aktiviti seks?
Soalan 5: Apakah tindakan sewajarnya yang perlu dilakukan sekiranya anda dijangkiti HIV?

Soalan 6 : Pada pendapat anda, apakah yang perlu dilakukan bagi meningkatkan tahap kesedaran terhadap HIV / mengurangkan risiko jangkitan HIV di Malaysia?

Sekian, Terima kasih.