



# HIV education for Russian-speaking people in Europe - An integrative literature review

Nadezda Sushchenko

2023 Laurea



Laura University of Applied Sciences

# **HIV education for Russian-speaking people in Europe - An integrative literature review**

Nadezda Sushchenko  
Global Health & Crisis Management  
Master's Thesis  
December, 2023

Nadezda Sushchenko

**HIV education for Russian-speaking people in Europe - An integrative literature review**

Year	2023	Number of pages	74
------	------	-----------------	----

---

This thesis is an integrative literature review that aims to enhance HIV prevention by providing HIV-related education material in an online form on the Global Window platform. The objectives of this study are: 1) to facilitate Russian-speaking people in Europe to gain knowledge of HIV, and 2) to spread information about existing online services. The aim and objectives of this study will be achieved with the help of three research questions, which are: 1) what are the most useful information and communication technologies to use, 2) why is the spread of HIV-related information powerful via information and communication technologies and 3) who would benefit most from HIV-related education.

HIV is a global issue. Approximately 38,5 million people had positive HIV status in 2021. During the same year, many countries faced an increase in HIV cases, and most of the cases were located in Russian-speaking countries such as Russia, Ukraine, and Belarus. Based on previous research, Russian-speaking people have misconceptions about HIV. Additionally, Russian-speaking people do not show interest in preventive actions. Thus, it is highly beneficial to focus HIV education on this specific group of people.

The research method used in this thesis was integrative literature review. The data was collected via three reliable databases: PubMed, CINAHL, and Google Scholar. Literature was selected based on the inclusion and exclusion criteria and transparency of the process was displayed by using a PRISMA flow chart. The quality of the selected literature was assessed according to the QuADS appraisal tool and the data was analyzed and synthesized by using a content analysis tool.

In summary, it is evidence-based that information and communication technologies hold a variety of valuable features. Not only are the end-users provided with a large number of diverse sources, but these sources have shown many redeeming features such as accessibility and cost-effectiveness. Information and communication technologies have shown great results in increasing awareness and prevention, which is exactly what is needed when it comes to HIV. Hence, HIV-related educational material can be seen on the Global Window platform ([www.globalwindow.fi](http://www.globalwindow.fi)).

Sharing of HIV-related material for Russian-speaking people (especially for people who inject drugs, people who have sexual intercourse, young gay, bisexual, and other men who have sex with men) is essential. The reason is misinformation, too little information, or risky behaviour of these people.

The Global Window platform will provide readers simple information about transmission of HIV, symptoms, and treatment. Additionally, the platform will provide links to different sources for more information.

Keywords: online HIV prevention, online HIV education, Russian-speaking people in Europe, Global Window platform

## Contents

1	Introduction .....	5
2	Background .....	6
2.1	The human immunodeficiency virus (HIV).....	6
2.1.1	Transmission and prevention .....	7
2.1.2	Symptoms .....	7
2.1.3	Diagnostics and treatment.....	7
2.1.4	HIV in Europe .....	8
2.2	Russian-speaking people .....	8
2.3	Russian-speaking people in Europe.....	9
2.4	HIV among Russian-speaking people .....	9
2.4.1	Reasons behind HIV transmission.....	10
2.4.2	Studies related to HIV transmission.....	11
2.5	Information and communication technology.....	12
2.5.1	Online HIV prevention .....	13
2.5.2	Global Window as an education platform.....	15
3	Aim and objectives, research questions and PICO model .....	15
4	Method .....	16
4.1	Integrative literature review as a methodology .....	16
4.2	Inclusion and exclusion criteria.....	18
4.3	Data search process .....	19
4.4	Quality assessment .....	21
4.5	Data analysis and synthesis.....	22
5	Results.....	23
5.1	Information and communication technologies to use in HIV education .....	23
5.2	Interventions of information and communication technologies .....	24
5.3	Characteristics of information and communication technologies .....	25
5.4	Target sub-groups .....	25
6	Discussion .....	26
6.1	Limitations.....	27
6.2	Ethical considerations and trustworthiness .....	28
6.3	Recommendations .....	29
7	Conclusion .....	29
	References .....	31

## 1 Introduction

The human immunodeficiency virus, also known as HIV, is a virus that weakens the human immune system making it difficult to defend itself against other infections (WHO 2022; Duodecim 2021). It can be spread through unprotected sex, contaminated blood, and/or from mother to child during labor and/or breastfeeding (WHO 2022; THL 2019; Duodecim 2021).

According to Hiv.gov (2022), HIV is one of the major issues that the global community is facing nowadays. In 2021, it was approximately 38.5 million people that had HIV-positive status. Of this number, 36.7 million were adults, and the rest were children under the age of fifteen. During the same year, statistics showed a decrease in HIV infections by 32% in comparison to the year 2010. It was estimated, that in 2021, 1.5 million people around the world contracted HIV (Hiv.gov 2022). However, only around 85% of people were aware of their HIV status in 2021 and 75% of them received antiretroviral therapy, meaning that 9.7 million people were still in line to get a therapy treatment (Hiv.gov 2022).

During the year 2021, numerous countries in Europe recorded an increase in HIV infection. Most of the cases were located in countries such as Russia, Ukraine, Belarus, and Moldova (ECDC 2022, 9-12). Additionally, according to ECDC (2022, 11), nearly half of the cases (42%) were recorded among immigrants.

As a result of historical migrations, Russian speakers can be found throughout Europe, with the highest concentration in Latvia and Estonia (Tiido 2019; Renvik, Jasinskaja-Lahti & Varjonen 2020). In Finland, Russian language is the most common foreign language and is spoken by over 87 000 individuals (STAT 2022).

The first cases of human immunodeficiency virus among Russian speakers were recorded in the Soviet Union, at the end of the 1980's (Bobkova 2013, 204; Amangaldiyeva, Davlidova, Baiserkin, Dzissyuk, DeHovitz & Ali 2019). The situation only got worse, and 10 years later HIV was already an epidemic (Bobkova 2013, 204). According to Bobkova (2013, 204), the most contributing factors behind the transmission of the virus were the usage of drugs and the new visa-free system, which enabled free movement between countries.

In 2020, it was recorded, that approximately 10.6 to 15.6 million individuals were injecting drugs, and still, most cases were in Eastern Europe countries (Tibi-Lévy, Serebryakova, Jauffret-Roustide & ANRS-Coquelicot study group 2020). To get the situation under control, countries such as Georgia, relied on repression, which after all did not lead to the desired results. Alternatively, repression forced drug users to migrate to Western Europe. For instance,

nowadays, approximately 30% of the clients in Parisian Harm Reduction Facilities are from Eastern European countries (Tibi-Lévy et al. 2020).

Based on previous research, immigrants have less information related to the process of transmission of HIV (Kuznetsov, Mattered, Crispin, Ruzicka, Zippel & Kuznetsov 2013, 68). Additionally, immigrants were less educated about the importance of condom usage or HIV testing as a preventive method. In cases of positive HIV statuses, immigrants did not experience condom usage or informing a partner as an obligation (Kuznetsov et al. 2013, 71).

Providing HIV-related knowledge via web-based services is efficient, as more and more people have access to and use online services. According to Yeh, Kennedy, Minamitani, Baggaley, Shah, Verster, Luhmann, Brito de Mello, and Macdonald (2022), in 2020 around 4.5 billion people had access to the internet and 3.8 billion people actively used social media. Online services are found to be effective in reducing stigma and prejudice, and are a great alternative to face-to-face services. This is highly important among people who are affected by HIV, especially men who have sex with men, sex workers, drug users, trans and gender-diverse people, and convicts (Yeh et al. 2022).

HIV-related interventions via web-based services have resulted in increased awareness and prevention (Niakan, Mehraeen, Noori & Gozali 2017, 319). For instance, by providing information related to, for instance, contraception and testing, has resulted in the increase in safe intercourses (Knight, Karamouzian, Salway, Gilbert & Shoveller 2017; Yeh et al. 2022).

The aim of this study is to enhance HIV prevention by providing HIV-related material via this integrative literature review and via the Global Window platform.

## 2 Background

### 2.1 The human immunodeficiency virus (HIV)

The human immunodeficiency virus is also known as HIV (WHO 2022; Duodecim 2021). Pathogenesis of HIV infection is when a virus targets a person's immune system and weakens it by destroying immune cells. This leads to immunodeficiency and difficulties in defending from different infections (WHO 2022).

With time, if HIV is not treated properly, it can transform into a more serious condition, which is called AIDS. AIDS is an abbreviation for acquired immunodeficiency syndrome (WHO 2022).

### 2.1.1 Transmission and prevention

The infection can be transmitted through unprotected vaginal, anal, or oral intercourse. Other modes of transmission are via blood (e.g. usage of same needles), and from mother to child (pregnancy, labor and/or during breastfeeding) (WHO 2022; THL 2019; Duodecim 2021). Acts, such as kissing, hugging, handshaking, or sharing items, food or drinks do not spread the infection (WHO 2022; THL 2019). THL (2019) indicates, that the infection does not transmit via insect stings, either.

HIV infection can be prevented, for instance, by using a condom during sexual intercourse (WHO 2022; Duodecim 2020; THL 2019), and using clean needles while taking drugs intravenously (Duodecim 2020; WHO 2022). Additionally, a highly important role plays in prevention, counseling, and testing of HIV and other sexually transmitted diseases (WHO 2022).

### 2.1.2 Symptoms

Typical symptoms of HIV include, for instance, fever (WHO 2022; Duodecim 2021; THL 2019), sore throat (WHO 2022; THL 2019), muscle pain, enlarged lymph nodes (Duodecim 2021; THL 2019), headache, rash (WHO 2022; Duodecim 2021), and diarrhea (Duodecim 2021).

Initial symptoms generally occur during the first 6 weeks after being infected (WHO 2022; Duodecim 2021; THL 2019). However, HIV can be asymptomatic for years or even decades (Duodecim 2021; THL 2019). A more serious condition with progressed HIV is comorbidity. Without proper treatment, an infected person can also develop illnesses such as tuberculosis, cryptococcal meningitis, and different types of bacterial infections or cancers (WHO 2022).

### 2.1.3 Diagnostics and treatment

People can be diagnosed by taking antibody blood tests (WHO 2022; Duodecim 2021; THL 2019). Additionally, home tests are available (WHO 2022; THL 2019). However, they do not give a reliable result. Thus, an antibody blood test is needed in any case (WHO 2022).

According to the WHO (2022), antibodies are usually formed within 28 days of being infected. This is a very critical period, as during this period, an infected person in most cases does not experience any type of symptoms and there are not enough antibodies produced in the body to be seen in blood tests. However, an infected person can already infect others. This stage is called a window-period (WHO 2022). Thus, it is recommended to do the testing 1 to 3 months after possible infection (THL 2019).

If a person has been diagnosed with HIV, medical therapy is required. Antiretroviral therapy (ART) usually consists of a combination of 2 to 3 different drugs. Antiretroviral therapy is

lifelong (Duodecim 2021). Medications do not cure a person of HIV but restrain the virus from replicating in the body and restores the immune system (WHO 2022; Duodecim 2021; THL 2019).

WHO (2022) notes, that a person who is taking antiretroviral medications cannot transmit infection during sexual intercourse. Thus, an HIV-positive person can have children and live almost a completely normal life. HIV diagnosis rarely shortens lifespan (Duodecim 2021).

Nonetheless, late diagnosis is a regular dilemma in many European countries, especially among people who have transmitted HIV via heterosexual intercourse. Countries, where late diagnosis occurs more often are Montenegro (86%), Luxemburg (74%), Albania (71%), Latvia (65%), Sweden (64%), Estonia (63%), Italy (63%), Denmark (62%), and Germany (61%). The lowest rates are in the Russian Federation (30%), Belarus (32%), and Belgium (38%) (ECDC 2022, 9-16).

According to ECDC (2022, 12), to reduce the number of late diagnoses, it is important to increase indicator condition-guided testing, community-based testing, and HIV testing during a screening of other sexually transmitted infections.

#### 2.1.4 HIV in Europe

According to HIV/AIDS surveillance in Europe, many countries have reported an increase in new HIV diagnoses in 2021, with most cases located in the Russian Federation, Ukraine, the Republic of Moldova, Kazakhstan, Cyprus, Belarus, and Armenia. The least cases were reported in Slovenia, Croatia, and Norway (ECDC 2022, 9-12). The main transmission routes in the EU/EEA and in the West have been sexual intercourse between men. In the East parts of Europe, the most common transmission routes have been heterosexual sexual intercourse or the usage of intravenous drugs (ECDC 2022, 9). ECDC (2022, 11) indicates, that 42 percent of new HIV diagnoses in the EU/EEA area were among immigrants.

In the WHO European region, male-to-female sexual intercourse and injection of drugs are the main causes of HIV transmission. Fewer causes are male-to-male sexual intercourses, and mother-to-child transmission (ECDC 2022, 15).

For instance, in Finland, there are approximately 3000 HIV-positive individuals (ECDC 2012, 1). Around 90% are aware of their contagion and almost all receive antiretroviral therapy (Duodecim 2021; THL 2019). In Finland, for the last 30 years, the number of people of foreign origin with HIV infection has been rising, and in 2011 the amount of HIV diagnoses was higher among foreigners than among Finns (ECDC 2012, 6).

## 2.2 Russian-speaking people

Russian speakers can be divided into 4 groups: people who live in Russia, ethnic Russians who do not live in Russia, other ethnic groups who speak Russian (e.g. Ukrainians and Belarusians),



and migrants from the Soviet Union and/or people who are somehow connected to Russia (Tiido 2019).

The Russian language was established as a global language since the formation of the Soviet Union. To foster Russification, in 1938 was made an act, which made the Russian language as a mandatory school subject in all countries of the Soviet Union. Additionally, the spread of the Russian language was promoted by a distribution of people inside the Soviet Union. Between the period of 1950's to 1970's, around 2.7 million Russians relocated to other republics of the USSR (Mayer 2021).

During the period of the collapse of the Soviet Union, approximately 25 million Russians lived outside the Russian Federation, and for the last 25 years, more and more of Russians have migrated mainly to Europe, Israel, and North America (Suslov 2017; Kuznetsov et al. 2013, 68). Thus, Russians are statistically second-largest migration group in the world (Suslov 2017).

These days, there is uncertain information of Russian speakers outside of Russia. However, it is known, that the number varies between 15 to 30 million individuals. The largest Russian-speaking community is in Germany, with approximately 3 million individuals (Tiido 2019; Kuznetsov et al. 2013, 68).

### 2.3 Russian-speaking people in Europe

Every country in the European Union has at least somewhat Russian speakers. In 2018, 25% of the total population of Latvia considered themselves Russians. In 2017 in Estonia, ethnic Russians were 27% of the total population of the country. In 2017 in Lithuania, ethnic Russians were 4,5% of the total population, and 1,5% in Finland (Tiido 2019). The Russian language has ranked as the number one foreign language in Finland (STAT 2022; Renvik et al. 2020).

In Finland, in 2021 there were 87 552 individuals who spoke the Russian language (STAT 2022). Most of the the Russian-speakers have migrated to Finland after the collapse of the Soviet Union. However, migration have begun much earlier, starting in the 13<sup>th</sup> century (Renvik et al. 2020).

### 2.4 HIV among Russian-speaking people

In the USSR, the first cases of HIV were confirmed at the end of the 1980's (Bobkova 2013, 204; Amangaldiyeva et al. 2019) and only just over a decade later it was already an epidemic (Bobkova 2013, 204). At the same time, the number of people who inject drugs noticeably increased in Eastern Europe (Bobkova 2013, 204; Tibi-Lévy et al. 2020).

Former Soviet Union countries are Russia, Ukraine, Belarus, Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, Turkmenistan, Moldova, Estonia, Lithuania, Latvia, Georgia, Armenia,

and Azerbaijan (Amangaldiyeva et al. 2019). While other countries are stabilizing the prevalence of HIV, former Soviet Union countries are experiencing the fastest growth of HIV pervasiveness (Amangaldiyeva et al. 2019; Kuznetsov et al. 2013, 68). This is a dilemma, especially in Russia, Azerbaijan, Belarus, Lithuania, Uzbekistan, and Kazakhstan (Amangaldiyeva et al. 2019).

#### 2.4.1 Reasons behind HIV transmission

The main reason behind such rapid escalation of HIV cases was the new visa-free system between Soviet Union countries, which led to people's free migration between countries (Bobkova 2013, 204; Amangaldiyeva et al. 2019). In point of fact, in most case scenarios, HIV was transmitted via sexual intercourse when traveling abroad (Bobkova 2013, 207).

The first outbreak was in Ukraine, transferring to Russia. In 1998, the outbreak was reported in Belarus. Between 1998 to 2002 in Kazakhstan, 100% of injecting drug users had HIV. In Uzbekistan, it was 56,7%. Between 1998 to 2004, 96% of injecting drug users in Latvia were infected. During the same period, in Lithuania, the number was 60% (Bobkova 2013, 206).

The usage of drugs was the leading route of transmission of HIV (Bobkova 2013, 205). In 2020, there were around 10.6 million to 15.6 million individuals who injected drugs globally. Most cases were located in Eastern Europe. To be more precise, Russia had the most cases (Tibi-Lévy et al. 2020).

Based on Tibi-Lévy et al. (2020), the reasons behind increasing drug usage were: trafficking that was encouraged by corruption, better awareness of injection, degradation of the social support system, weakened family ties, shifted values, and sudden opening of borders. Additionally, drug usage in Eastern Europe has led to arrests and imprisonment. Thus, many users have not been able to seek treatment (Tibi-Lévy et al. 2020).

Tibi-Lévy et al. (2020) mention, that the repression of drug users that has been, for instance, present in Georgia's policy, has not given the desired results. Instead, the number of drug users and HIV exposures are increased. Under the circumstances, repression is one of the reasons for drug users to migrate to Western Europe. For instance, France is highly popular, especially among Russians, Georgians, Ukrainians, and Armenians. Harm Reduction Facilities in Paris have nowadays one third clients from Eastern European countries (Tibi-Lévy et al. 2020).

According to Bobkova (2013, 205), HIV diagnostics, treatment, and epidemiological monitoring were developed and unified during the 1980's. However, just after approximately 20 years, one of the speediest spreads of HIV was in post-Soviet states, with 700,000 HIV positive. In 2011, there were approximately 1,4 million HIV-positive individuals in Eastern Europe and Central Asia. At that point, only around half of the patients received antiretroviral therapy in all post-

Soviet countries except Georgia. In Georgia, three-quarters of the patients received antiretroviral therapy (Bobkova 2013, 209). Thus, in Georgia, HIV testing and treatment are alarmingly lower than the global indicators. This is a problem in Uzbekistan, Tajikistan, Ukraine, and Moldova, as well (Amangaldiyeva et al. 2019).

Other important factors that directly affected for HIV infections to rise were chronic drug shortage, lack of information, and unwillingness to act (Bobkova 2013, 209). Drug shortage has been a result due to a lack of domestic production of generic drugs and due to doctors' preference for foreign brand names (Bobkova 2013, 209).

The improvement of HIV treatment occurred with the improved economic status of the countries (Bobkova 2013, 208). However, nowadays, HIV among injecting drug users in Eastern Europe is still much higher than in the rest of the world (Tibi-Lévy et al. 2020). HIV has become common as a consequence of drug injection, heterosexual intercourses, homosexual intercourses, and cross-border migrant-associated transmissions (Amangaldiyeva et al. 2019). Additionally, Amangaldiyeva et al. (2019) are noting, that HIV testing is a colossal issue, too. This is due to stigmatization of HIV-positive people, legal statuses of migrants, poor infrastructure of testing locations, confidentiality issues, neglecting one's own health, self-perception of HIV risk, and lack of experience in sex work.

#### 2.4.2 Studies related to HIV transmission

Based on different studies, it is clear, that people have enough of knowledge about HIV. However, a lot of the knowledge is misconceived (Kuznetsov et al. 2013, 69). The first study related to HIV perception in Russian Federation was completed in the early 90's. Research showed a great result in HIV awareness. 99% of respondents were familiar that HIV can spread via sexual intercourse and needle sharing. However, one-fourth of the respondents believed that HIV can also spread by kissing, via mosquito bites, or by sharing cigarettes or kitchen utensils, which is a fallacy of information. Another study, which took place in Armenia, also showed great rates considering HIV perception (91%). However, the misconception rate was also fairly high (41-70%) (Kuznetsov et al. 2013, 69).

Kuznetsov et al. (2013, 69) also pointed out an extensive study, which was conducted in 1999 and took place in Russia, Georgia, Estonia, Hungary, and Poland. Research showed, that business people ages 25 to 57 showed little interest in having protected sexual intercourse. In addition to that, research showed, that risky sexual actions, ignorance towards those with HIV/AIDS, and discrimination of HIV-positive persons were common in former Soviet Union countries, as well as among male homosexuals, female sex workers, street-based teens, individuals who visited STD clinics, and intravenous drug users (Kuznetsov et al. 2013, 69).

According to a conducted study by Kuznetsov et al. (2013, 68), immigrants (in this case immigrants from former Soviet Union countries in Germany) are less aware of how HIV spreads and how it can be prevented, than native Germans. The study showed the same level of knowledge among immigrants and native Germans related to the transmission of HIV via needle sharing (Kuznetsov et al. 2013, 68).

Nevertheless, immigrants were less aware of the importance of condom usage as an HIV transmission-related prevention method. Hence, in case of possible HIV contagion, immigrants did not consider testing as a necessity. Likewise, in case of confirmed HIV infection, immigrants did not consider the importance in usage of condoms or informing a partner about the infection (Kuznetsov et al. 2013, 71). Additionally, immigrants had fallacy information related to blood transfusion. This might be related to the fact, that in former Soviet Union countries, blood transfusion was not considered as a safe procedure. Whereas, in Germany, it is (Kuznetsov et al. 2013, 71-75).

The same study has pointed out, that higher age and lower education were proved to be influential factors regarding ignorance of sexual transmission routes and of the importance of single-use needles as a preventive method of HIV transmission (Kuznetsov et al. 2013, 71). HIV-related awareness was low among immigrants of all socio-demographic clusters, except for cohabiting and unemployed people (Kuznetsov et al. 2013, 73). In this case, unemployment does not necessarily mean the person is not well educated or is lacking professional skills. However, it is mostly linked to a lack of proficiency in the German language, a lack of awareness of the German economy and social institutions, and/or issues involving the recognition of non-EU credentials (Kuznetsov et al. 2013, 75). Additionally, the same study showed, that HIV-related awareness was minor among older, retired, and less educated immigrants (Kuznetsov et al. 2013, 75).

## 2.5 Information and communication technology

Today, more and more people have access to the internet and social media (Knight et al. 2017; Yeh et al. 2022). To be more precise, in 2020, approximately 4,5 billion people globally had access to the internet, and 3,8 billion people were active users of social media (Ronen, Grant, Copley, Batista & Guthrie 2020). Knight et al. (2017) note, that usage of the internet is the most common among 30 years old or younger. Furthermore, number of eHealth users is rising. eHealth aims to improve health outcomes via different digital communication technology interventions (Ronen et al. 2020). eHealth interventions are, for instance, web-based outreach, web-based case management, and targeted web-based health information (Yeh et al. 2022).

Information and communication technology services have many useful features. Through internet, it is possible to reach a larger audience, including geographically isolated. The internet makes it easier to target material to specific groups and/or individuals. Information

and communication technologies can help to increase efficiency and enhance financial conditions. It can also help reduce the effects of stigma and prejudice, as well as give users the benefits of anonymity, convenience, and potential self-care (Yeh et al. 2022; Ronen et al. 2020).

Based on Yeh et al. (2022), information and communication technologies offer a tremendous alternative to face-to-face services. This is especially relevant in cases when people are not able to attend face-to-face services. Thus, more people will have an opportunity to benefit from health-related services. Furthermore, services that are available on the Internet, have the potential to reduce costs and waiting times, thereby allowing more time for case management in health facilities (Yeh et al. 2022).

Data security and confidentiality are in potential danger when operating in information and communication technology services (Yeh et al. 2022). Yeh et al. (2022) also mention the demerits and one of them is the incapacity or limitation of most vulnerable people to use these services due to poor reading ability, narrow internet access, or low digital literacy. Additionally, other downsides are the potential risk of losing in-person rapport during the counseling, and possible expenses for the users (Yeh et al. 2022). Based on Ronen et al (2020), some of the disadvantages are, for instance, frequent changes in data policies, data privacy, privacy protection, and sovereignty.

#### 2.5.1 Online HIV prevention

The implementation of information and communication technologies (ICT) can have a significant role in regulating the propagation of HIV, especially among the younger population, which turns to the web and mobile technologies in order to take advantage of, or in order to seek sexual partners (Niakan et al. 2017, 319-324). Niakan et al (2017, 324) highlight, that people who seek sexual partners via online platforms are people who are at a greater risk of getting infected and transmitting HIV due to their risky behavior. Commonly used internet platforms to support HIV prevention and treatment are, Facebook, Instagram, MySpace, Twitter, and Whatsapp (Ronen et al. 2020).

Web-based services are actively present among the most vulnerable populations that are affected by HIV, other sexually transmitted infections, and viral hepatitis. These people are men who have sex with men, sex workers, people who inject drugs, trans and gender-diverse people, and prisoners (Yeh et al. 2022). They often face significant challenges such as low health literacy, the ability to build healthy relationships, dealing with stigma, and disclosure of their HIV status. Through web-based intervention programs, HIV-positive people can acquire useful information to help them manage their infection (Niakan et al. 2017, 322). In addition to that, web-based services have been employed in an effort to ameliorate the lack of engagement with HIV and other sexually transmitted infection care among males, particularly

among young gay men, bisexual men, and other men who have sex with men (Knight et al. 2017).

Providing people with knowledge regarding sexual health is considered to be particularly significant, especially for those who lack other sources. Moreover, it is much more likely that people will take follow-up measures if they are given the opportunity to access data in a private manner or have people to ask questions to (Yeh et al. 2022). The internet provides an extensive source of information regarding various diseases, such as HIV, that can be used to increase awareness and prevention. By drawing from large, accessible databases, individuals can gain valuable insight into disease prevention as well (Niakan et al. 2017, 322).

Interventions via Internet have also shown positive results in practicing safer sex, by increasing knowledge of sexual health, self-efficacy, testing, condom use, and incidence infections (Knight et al. 2017). Online Group-based Interventions tend to inspire individuals to make positive life changes. These interventions can decrease the likelihood of HIV-related shame, stigma, and risky behaviors while promoting greater participation in social activities for those affected. Ultimately, this can lead to improved social support for those living with HIV (Niakan et al. 2017, 322). For instance, based on the evidence, online support groups have resulted in improved HIV knowledge, social support, social isolation, and depressive symptoms (Ronen et al. 2020).

Based on the extensive literature, eHealth services have had valuable outcomes regarding HIV care as a whole. Good results are recorded regarding HIV prevention and testing, care linkage and retention, and antiretroviral therapy adherence (Ronen et al. 2020). For instance, mobile-based programs can provide timely reminders for taking medications, performing exercises, or adhering to dietary regimens. Regularity of antiretroviral therapy is highly important, as if the medication is not taken at the right time the HIV virus is likely to become resistant to treatment medications (Niakan et al. 2017, 320). Niakan et al. (2017, 320) validate, that it is evidence-based that mobile phone text messages help people to stay adherent to their antiretroviral therapy regimens.

Mobile devices can be used to address some of the major challenges regarding medication compliance and support adherence to antiretroviral therapy (ART) by reminding people to take their medication and allowing direct communication with healthcare professionals (Niakan et al. 2017, 324). Reminders for medication intake can be carried out via multimedia text messages, population health-focused applications, health system-focused applications, and patient-care-focused applications (Niakan et al. 2017, 322).

Connections among gay men, bisexuals, and other men who have sex with men are frequently established via social media and dating/sexual networking applications like Grindr, Scruff, and Tinder. These phone applications boast millions of users, and the majority are under thirty.

They make it possible for young people to access tools and information related to prevention, care, and/or treatment (Knight et al. 2017). The prevention, treatment, care, and protection of the rights of HIV-positive individuals are essential elements to be addressed in any AIDS intervention program (Niakan et al. 2017, 319). Additionally, based on Ronen et al. (2020), literature reviews have shown, that HIV prevention has also become more common via group messaging platforms, especially over the last 5 to 10 years.

All in all, it is favorable to add web-based services to larger health programs such as HIV and other sexually transmitted infections (Yeh et al. 2022). To get the most use of these services, it would be better, if they were characteristically easy to use, individual, simple, and not alerting others (Niakan et al. 2017, 320).

### 2.5.2 Global Window as an education platform

Global Window website provides a platform for students and personnel of Laurea University of Applied Sciences and for professionals of business, governmental, and non-governmental fields. The aim of this platform is to develop solutions to different global health and crisis management issues. In addition to that, Global Window aims to provide a platform for individuals, communities, and societies to increase health literacy that will be provided by students and personnel of Laurea University of Applied Sciences, and by its partners. To find more information, can visit the website [www.globalwindow.fi](http://www.globalwindow.fi) (Global Window, no date).

The purpose is to make use of this website by publishing HIV-related educational material for Russian-speaking people in Europe. The anticipation is for Russian-speaking people to gain more knowledge of HIV. It is desirable that people will learn at least about how the disease is transmitted, its symptoms, and how HIV can be treated.

## 3 Aim and objectives, research questions and PICO model

The aim of this study is to enhance HIV prevention by providing HIV-related education material in an online form on the Global Window platform.

The objectives of this study are:

- 1) to facilitate Russian-speaking people in Europe to gain knowledge of HIV,
- 2) to spread information about existing online services

According to Prill, Karlsson, Ayeni and Becker (2021, 2741), the PICO model is a useful tool that helps a researcher to form research questions. See PICO model in Table 1.

P (population)	Russian-speaking people in Europe
I (intervention)	Enabling online education material for HIV prevention
C (comparison)	Previous research
O (outcome)	Improved knowledge of HIV among Russian-speaking people in Europe visiting at Global Window-platform

Table 1: PICO model

Dhollande, Taylor, Mayer and Scott (2021) highlight that forming research questions in a literature review is fundamental. Thus, the research questions for the integrative literature review are structured with the help of the PICO model to facilitate the presentation of HIV-related educational material on the Global Window platform.

- 1) What are the most useful information and communication technologies to use?
- 2) Why is the spread of HIV-related information powerful via information and communication technologies?
- 3) Who would benefit most from HIV-related education?

#### 4 Method

An integrative literature review will be applied as a methodology in this thesis, as this research method aims to gather previous literature and provide more thorough and updated data (Toronto & Remington 2020, 4; Christmals & Gross 2017, 7). Additionally, this research method is generally used in nursing (Toronto & Remington 2020; Dhollande et al. 2021).

Integrative literature review has many similarities to systematic review. For instance, by implementing an integrative literature review, a researcher is able to analyze research literature, evaluate how high quality is the evidence, and recognize possible gaps in knowledge (Dhollande et al. 2021).

##### 4.1 Integrative literature review as a methodology

The basis of a new integrative literature review is previous qualitative and quantitative research (Dhollande et al. 2021). Thus, it is a non-experimental design (Christmals & Gross 2017, 7). An integrative literature review follows a systematic approach, which consists of six steps. The six steps are: 1) formulating a purpose of the work and/or reviewing research questions, 2) data search, 3) evaluation of the quality of the data, 4) data analysis, 5) discussion and conclusion, and 6) presentation of findings (Toronto & Remington 2020, 5-6). See six stages of integrative literature review by Toronto and Remington in Figure 1.



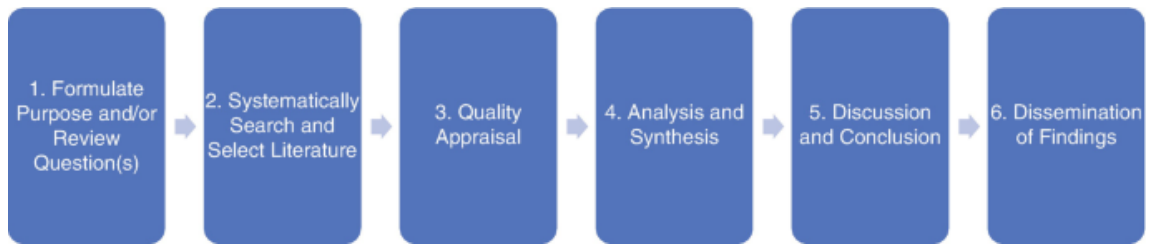


Figure 1: 6 stages of integrative literature review (Toronto & Remington 2020, 6).

Additionally, an integrative literature review can be divided into 4 stages, which would be: the conceptual phase, an empirical phase, the interpretive phase, and the communication phase (Christmals & Gross 2017, 8).

Based on Toronto and Remington (2020, 12-13), it is highly essential and helpful to follow an hourglass model when writing an integrative literature review. Following this model means primarily concentrating on the introduction, background, and conclusion parts. See an hourglass model by Toronto and Remington in Fugre 2.

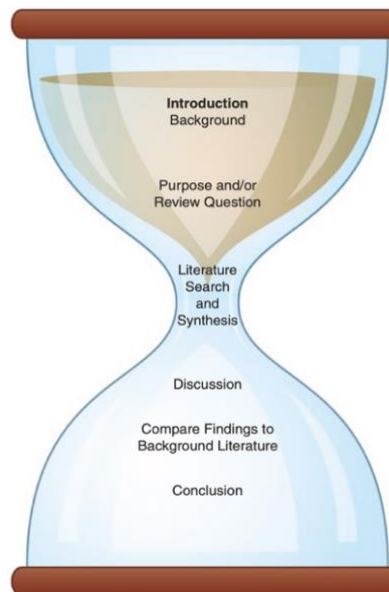


Figure 2: An hourglass model (Toronto & Remington 2020, 13).

The second most important sections of an integrative literature review are defining purpose and research questions, discussion, and comparison of findings to background literature. Literature search and synthesis processes are also remarkably important; however, they require the least concentration (Toronto & Remington 2020, 12-13).

The integrative literature review process begins with broad background research. Formulation of purpose and research questions is also one of the primary tasks. Research questions can be

easily structured by the usage of auxiliary questions: who, what, where, why, and how (Toronto & Remington 2020, 16).

Toronto and Remington (2020, 22) suggest documenting all parts of the literature search during background research. These parts are databases, search terms, limiters, inclusion criteria, and exclusion criteria. Proper documentation prevents the emergence of a biased conclusion. PRISMA chart is a mandatory tool for documentation (Prill et al. 2021, 2740; UNC, no date).

Additionally, during background research, all used literature must be evaluated for its quality. This process is essential to ensure the reliability, value, and relevance of the data. Quality appraisal is facilitated by different appraisal tools, such as CASP and JBI. During this phase, it is also important to emphasize validity and control over bias. Bias can be related to selection, measurement, attrition, and performance. Validity is related to the best possible trustfulness of the results (Toronto & Remington 2020, 45-49). Toronto and Remington (2020, 57) are highlighting the complexity of the data analysis process.

Lastly, a researcher must focus on the discussion and conclusion of the research. A major part of the discussion is for new thoughts and directions, as well as for interpretation of major findings. Additionally, the context and meaning of the research findings are provided. Whereas the conclusion summarizes the findings and highlights the key points of the entire study (Toronto & Remington 2020, 72-79; Prill et al. 2021, 2743).

#### 4.2 Inclusion and exclusion criteria

Inclusion and exclusion criteria have been chosen carefully and thoughtfully, as they help to limit the literature and enable the detecting most appropriate data for particular topics. While choosing exclusion criteria, it is important to keep in mind that it might lead to biased results. Thus, especially exclusion criteria must be chosen judiciously (Dhollande et al. 2021). See inclusion and exclusion criteria in Table 2.

Inclusion criteria	Exclusion criteria
Publication language: English, Russian, Finnish	Any language other than English, Russian, and Finnish
Date: publications between years 2013 to 2023	Date: 2012 or older publications
Full-text only	
Qualitative and quantitative research articles	
Peer-reviewed articles focusing on online health campaigns/guidance for preventing HIV	
Recommendations and guidelines focusing on online health campaigns/guidance for preventing HIV	

Table 2: Inclusion and exclusion criteria

#### 4.3 Data search process

Dhollande et al. (2021) state, that a properly described data search process helps readers reproduce literature. Literature, that might be excluded, needs to be saved as well (Toronto & Remington 2020, 33). To display a transparent, systematic, and evidence-based integrative literature review data search process, the PRISMA chart will be utilized (Toronto & Remington 2020, 7). See PRISMA flow diagram in Table 3.

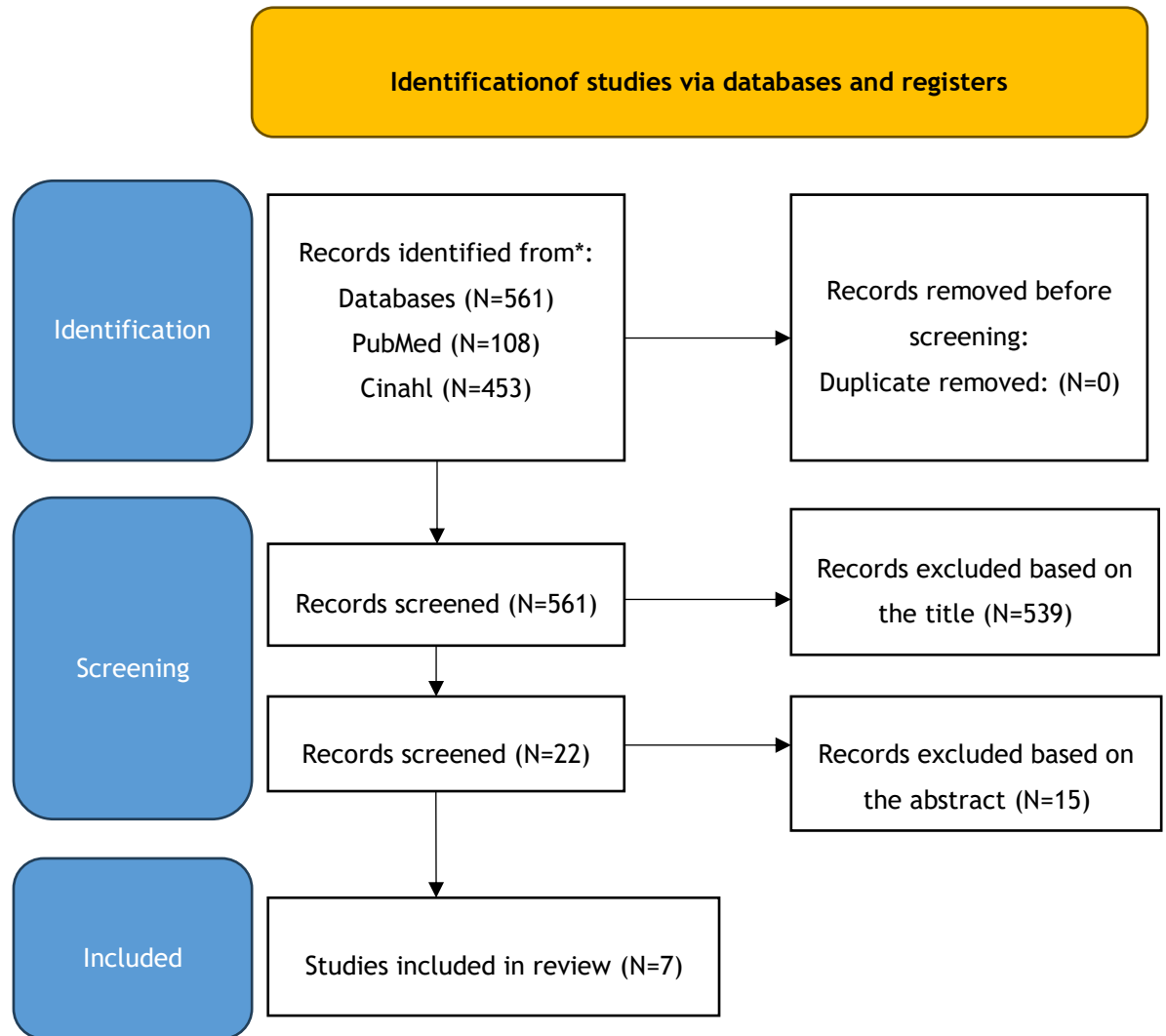


Table 3: PRISMA flow diagram (PRISMA 2023)

The data search process took place from January 2023 until April 2023. Various databases have different levels of literature coverage. Thus, it is suggested to use more than one database during the data search process (Dhollande et al. 2021). Three different databases were selected: CINAHL, PubMed, and Google Scholar.

Suitable literature has been retrieved with support of the following search terms: CINAHL: “hiv AND online prevention” have shown 449 results. 14 articles were selected based on the title, and only 1 article was selected based on the abstract and full text. The other 13 articles were not suitable based on the abstract. PubMed: “hiv AND online prevention” has shown 102 suitable articles. 4 articles were selected based on the title and 3 articles were selected based on the abstract and full text. Google Scholar: 392,000 results based on the search terms “hiv AND online prevention”. The researcher made a decision not to search through such a long list of results.

CINAHL: “fsu AND hiv” search terms have had 4 results. 2 articles were selected based on the title, and 1 of these articles did not have suitable abstract. PubMed: “fsu AND hiv” gave out 6 suitable articles, and 2 articles were selected based on the title, abstract and full text, too. Google Scholar: “fsu AND hiv”, 6490 results. The researcher did not shift through articles that Google Scholar had to offer, as there were too many.

Two of the articles were randomly found on Google Scholar and selected based on the suitable title, abstract, and full text. The rest of the sources (ECDC, Duodecim, Global Window, WHO and THL) were chosen based on the recommendations.

#### 4.4 Quality assessment

As stated in Toronto’s and Remington’s step-by-step guide to conducting an integrative review (2020, 45), quality assessment consists of an evaluation of the reliability, value, and relevance of data. This stage is highly important, as via assessment tools a researcher sorts out sufficient data from deficient one and proves the credibility of the research (Dhollande et al. 2021). It is a requisite to evaluate the quality of used literature. However, poor-quality literature does not necessarily mean that it cannot be used. Based on some opinions, literature with low quality might add more diversity. On the other hand, some suspect, that low-quality data potentially leads to inaccurate conclusions of research (Toronto & Remington 2020, 45-46).

There are over a hundred different quality assessment tools, and nine of them are commonly used in nursing. To have research with as trustworthy results as possible, it is recommended to use at least a set of different tools (Toronto & Remington 2020, 48). Due to not overly broad content of this research, one appraisal tool has been selected.

Appraisal tools are a rarity when it comes to assessing the quality of systematic reviews with various study designs, and studies with mixed- and multi-methods. Applying various sorts of evidence is highly prevalent in health service-related research since many health service aspects simply cannot be explained clearly enough by using just one method (Harrison, Jones, Gardner & Lawton 2021). Thus, in 2012, The Quality Assessment Tool for Studies with Diverse Designs (QATSDD) was introduced. Later on, a reformed version was adduced by Reema Harrison, Benjamin Jones, Peter Gardner and Rebecca Lawton. The Quality Assessment for Diverse Studies (QuADS) tool is utilized to improve the validity and reliability of health service multi- and mixed-method research primarily (Harrison et al. 2021).

Quality assessment of selected articles in this thesis has been implemented with help of QuADS appraisal tool checklist. QuADS checklist consist of 13 different features that were scored on a scale from 0 to 3 points. Based on the total score, each articles’ quality was scored on a % level. Each of 7 selected articles were scored individually. Results of quality in 7 articles were

wide-ranging, from 23% to 95%. Most of the articles were considered as a high/good quality article.

Albeit Amangaldiyeva et al.'s (2019) and Bobkova's (2013) reviews were of poor quality, they bring important points into this research to merge all the data. These reviews concentrate on HIV situation in former Soviet Union countries from different angles, which brings more varied results. This is the reason why Toronto and Remington (2020, 45-46), are not agonized by usage of poor quality data.

More comprehensive and detailed quality assessment of selected articles can be found at the end of the thesis, in Appendix 2.

#### 4.5 Data analysis and synthesis

In the integrative literature review, the main goal is to create a better knowledge of the selected topic by producing, for instance, a new model or a framework, while combining selected literature as a whole. Thus, a review must not contain just simple summaries of selected data. Appropriate integrative literature review must contribute new meaning or knowledge to the selected topic (Toronto & Remington 2020, 57-58). Detailed characteristics of the included studies are listed in Appendix 3.

There are three different approaches that can be applied when analyzing and synthesizing the data: constant comparison method, content analysis, or thematic analysis (Toronto & Remington 2020, 64). The data in this thesis was analyzed by a using content analysis approach. Toronto and Remington (2020, 65) mention, that content analysis can be applied to both, qualitative and quantitative data, with the main aim of summarizing the data. It is a three-stage process: preparation, organizing, and reporting. The purpose of the first stage is to help a researcher to make sense of data, by reading and abstracting data. Second stage included five phases, that are: open coding, coding sheets, grouping, categorization, and abstraction. (Toronto & Remington 2020, 65-66).

The last stage of content analysis was for reporting the results by using models, conceptual systems, conceptual mapping, or categories. The aim of this stage was to compound all the data into a whole (Toronto & Remington 2020, 66).

All seven selected articles had been read through once more for the purpose of content analysis. Each article was summarized into one page following mind mapping of the main points. Based on the mind maps and research questions, the main points were picked out and mentioned down below: information and communication technology to use in HIV education, information and communication technology characteristics, and target sub-groups.

Minds maps contained words that were key points in the analyzed texts. These words are: heterosexual transmission, people who inject drugs, men who have sex with men, visa-free movement, sexual intercourse, young people, bisexual people, affordable, prevention, “hidden” people, gay people, social/sexual networking applications, discrimination, stigma, privacy, ability to reach people, anonymity, confidentiality, support, individual/group level, web-based and mobile-based programs, reaching broader audience, and shame. Content analysis mind maps are on display in Appendix 4.

## 5 Results

Seven articles were selected as hits for review; two reviews (Amangaldiyeva et al. 2019; Bobkova 2013), one systematic review (Knight et al. 2017), one cross-sectional survey (Kuznetsov et al. 2013), one scoping review (Niakan et al. 2017), one combinational study (literature review, an online survey, and an international practitioner workshop) (Ronen et al. 2020), and one article combined systematic review and meta-analysis (Yeh et al. 2022).

At this point, a researcher would like to recall the aim, objectives, and research questions of this integrative literature review, as they play a significant role in the formation of results. The aim of this review is to enhance HIV prevention by providing HIV-related education material in an online form on the Global Window platform. The objectives of this study are 1) to facilitate Russian-speaking people in Europe to gain knowledge of HIV and 2) to spread information about existing online services.

Research questions are formed as such:

- 1) What are the most useful information and communication technologies to use?
- 2) Why is the spread of HIV-related information powerful via information and communication technologies?
- 3) Who would benefit most from HIV-related education?

### 5.1 Information and communication technologies to use in HIV education

Three of the selected reviews/studies discussed various information and communication technologies that are implemented to enhance HIV prevention (Niakan et al. 2017; Ronen et al. 2020; Knight et al. 2017). These technologies are on the rise, especially among young HIV-positive individuals (Niakan et al. 2017, 319), and can be accessed via a variety of tools such as mobile phones, smartphones, notebooks, desktop computers, and tablets (Knight et al. 2017).

Web-based preventive programs in use are, for instance, chat room-based education programs, web-based therapeutic education systems, website support learning, and online seek

information (Niakan et al. 2017, 321). Mobile-based preventive programs are patient-care-focused applications, health system-focused applications, population health-focused applications, text messages, multimedia text messaging boosters, and two-way supportive text messages (Niakan et al. 2017, 321).

Ronen et al. (2020) have observed, that the most used social networking and media platforms are Facebook, Weibo, WhatsApp, Twitter, Instagram, MySpace, Viber, Google Groups, Reddit, Yahoo Groups, IMO, and virtual environments. These platforms are used not only on individual level, but nowadays group interactions are on the rise (Ronen et al. 2020). Examples of group-level HIV interventions are antiretroviral therapy adherence groups and groups that provide peer support (Ronen et al. 2020).

Globally, among young gay, bisexual, and other men who have sex with men commonly used social and sexual networking applications are, for instance, Tinder, Grindr, and Scruff (Knight et al. 2017). Knight et al. (2017) have paid attention to intervention on Grindr, where end-users of these exact applications have had a possibility to receive a HIV self-test kit via pharmacy-specific codes, e-mails, or a vending machine.

Collectively, a broad variety of information and communication technologies can be and are applied to HIV education. More examples of commonly used technological interactions are phone calls, and reminders (Ronen et al. 2020). Social support tools, such as CyberSenga and HITSystems are commonly used to educate people about HIV (Niakan et al. 2017, 322). Preventive technologies are implemented via multimedia text messages, population health-focused applications, health system-focused applications, and patient care-focused applications (Niakan et al. 2017, 322). Example of a website, that provides HIV-related information, is Mpowerment. Mpowerment provides people with live chats with professionals, quizzes, journals related to hook-ups and sex, and risk assessment tools (Knight et al. 2017).

## 5.2 Interventions of information and communication technologies

So, what kind of interventions do information and communication technologies provide to control the transmission of HIV? Overall, these technologies are confirmed to be a helpful tool in controlling the spread of HIV (Niakan et al. 2017, 319), by influencing prevention, testing, linkage to care, retention in care, and medical treatment (Ronen et al. 2020). Smartphone utilization has shown great results in the care and treatment of HIV (Niakan et al. 2017, 320).

Examples of web-based programme interventions are eHealth education, web-based tailored interventions, video-group deliveries, interactive screening and brief, online group-based interventions, CyberSenga program, and HIT system (Niakan et al. 2017, 321). Mobile-based interventions are, for instance, SMS/MMS interventions concerning physical activities,



reminders with text messages, health-related messages, chat via online platforms, social networking, and conversations via cell phones (Niakan et al. 2017, 321).

Mobile-based programs can provide reminders, for instance, related to medication intake. These programs are also used to send instructions relating to foods or exercises. It is evidence-based, that text messages or multimedia messages have had a positive impact on antiretroviral therapy intake or physical activity of end-users which leads to improved functioning of people with HIV (Niakan et al. 2017, 320-324).

### 5.3 Characteristics of information and communication technologies

According to Niakan et al. (2017, 320), Ronen et al. (2020) and Yeh et al. (2022), information and communication technologies are proven to be affordable when it comes to implementation and delivering stages. Based on Ronen et al. (2020) and Knight et al. (2017), this is due to possibility of diminishing costs of personnel and the ability to dynamically scale.

Information and communication technologies provide users with confidentiality, anonymity (Ronen et al. 2020) and privacy (Yeh et al. 2022). They enable possibilities to increase information (Niakan et al. 2017, 322) and to reach a broader audience (Niakan et al. 2017; Yeh et al. 2022). Yeh et al. (2022) and Knight et al. (2017) note, that information and communication technologies enable to reach people who are geographically hidden. According to Niakan et al. (2017, 322), people who can be reached via these technologies are men who have sex with men, highly mobile people, and stigmatized individuals.

Interventions conducted via web-based services or mobile-based services are potential interventions to reduce HIV-related stigma (Yeh et al. 2022; Niakan et al. 2017, 322), discrimination (Yeh et al. 2022), shame, risky behavior (Niakan et al. 2017, 322), symptoms of depression (Ronen et al. 2020; Niakan et al. 2017, 322), and the risk of infection overall (Niakan et al. 2017, 322). They also provide different types of support, such as social, emotional, and informational support (Ronen et al. 2020).

As a whole, information and communication technologies are a great tool to increase awareness, prevention, and knowledge (Niakan et al. 2017, 322-323; Knight et al. 2017) by providing people with information and possibilities to learn (Ronen et al. 2020).

### 5.4 Target sub-groups

Although the target group of this thesis has been Russian-speaking people in Europe, based on the literature it is clear, that specific groups of people are more prone to contacting HIV or/and transmitting it (Amangaldiyeva et al. 2019; Bobkova 2013; Knight et al. 2017; Kuznetsov 2013; Yeh et al. 2022; Ronen et al. 2020; Niakan et al. 2017). In this section, these sub-groups will be discussed more explicitly.

All seven selected articles included somewhat information regarding these sub-groups (Amangaldiyeva et al. 2019; Bobkova 2013; Knight et al. 2017; Kuznetsov et al. 2013; Niakan et al. 2017; Ronen et al. 2020; Yeh et al. 2022). People who inject drugs, people who have heterosexual sexual intercourse, and men who have sex with men are the most mentioned groups. In the former Soviet Union, most common individuals with HIV are those who inject drugs and prostitutes (Amangaldiyeva et al. 2019; Kuznetsov et al. 2013, 75). In 1996, 99% of HIV cases were due to drug usage (Bobkova 2013, 205). Thereupon, HIV is widespread among men who have sex with men, people who have heterosexual sexual intercourse, and cross-border migrants (especially youth and with risky behavior) (Amangaldiyeva et al. 2019; Knight et al. 2017).

Visa-free movement of individuals across former Soviet Union countries contributed to the worsening of the HIV situation according to researcher Bobkova Marina as well (Bobkova 2013, 206). Concerning migrants from former Soviet Union countries, intravenous drug usage is still considered as number one cause of HIV transmission (42,3%), following sexual intercourses between heterosexuals (27,3%), and men who have sex with men (9,1%) (Kuznetsov 2013,69). Likewise, people who inject drugs, in addition to men who have sex with men, trans and gender-diverse people, and prisoners, are considered a key population when it comes to online technologies (Yeh et al. 2022).

HIV transmission rates and engagement with infection are problematic among young gay, bisexual, and other men who have sex with men, globally (Knight et al. 2017; Ronen et al. 2020). For instance, in Georgia, men who have sex with men in addition to people who inject drugs and sex workers, are considered as high-risk groups (Amangaldiyeva et al. 2019). Overall, according to the World Health Organization, sexual intercourse is the main cause of HIV transmission (Niakan et al. 2017, 322). In the former Soviet Union, stable growth of sexual intercourses among heterosexuals led to a stat increase in HIV transmissions (Bobkova 2013, 206).

## 6 Discussion

This research has helped to fathom how broad is the spectrum of information and communication technologies that can be applied to HIV education and prevention. Web-based services are as commonly used as mobile-based services, providing organizations and end users with a variety of options for preventive programs, such as chat rooms, websites, applications, and text messages (Niakan et al. 2017, 321).

The interpretation of findings has indicated that a broad assortment of services helps to control the spread of HIV by a variety of interventions. The spread of HIV is enabled via provided

interventions, through which has been possible to affect prevention, treatment, and spread of HIV in general (Ronen et al. 2020). Examples of information and communication technology based-interventions are education through online groups or eHealth services, networking, and reminders via text messages (Niakan et al. 2017, 321).

According to Niakan et al. (2017), Ronen et al. (2020) and Yeh et al. (2022), information and communication technologies hold a variety of positive qualities, too. Based on a variety of research and studies, the use of these technologies is enticing due to cost-effectiveness, availability, nameliness, and aptitude to discipline HIV-related actions and feelings. These qualities are crucial for people who possess higher risk of catching HIV and transmitting it. As mentioned in the results, these groups of people are migrants, people who inject drugs, people who have sexual intercourses, and young gay, bisexual, and other men who have sex with men (Amangaldiyeve et al. 2019; Knight et al. 2017).

Overall, the data provides evidence that information and communication technologies play a significant role in HIV prevention. Ultimate consumers are offered with a variety of preventive programs and interventions with easy access and are provided with the possibility to gain knowledge with an enormous amount of data and support, especially when it is targeted to exact people (Niakan et al. 2017, 322-323; Knight et al. 2017).

According to previous studies and research, Russian-speaking people have a good amount of information related to HIV. However, a substantial part of the information is misconceiving. In addition to that, an extensive amount of Russian-speaking people do not practice preventive actions when it comes to HIV (Kuznetsov et al. 2013, 69). These factors prove and confirm the fact that HIV-related education is much needed among Russian-speaking people.

This study has provided a researcher with important and needed information before posting educational material on the Global Window platform. This research has proved the significance and magnitude of online prevention to enhance HIV prevention. In the opinion of a researcher online interventions are an easy and flexible way of learning, communicating, collaborating, and motivating.

## 6.1 Limitations

Acknowledgment of limitations gives research more trustworthiness and reliability (Toronto & Remington 2020, 79). Although a lot of time and care has been put into this thesis, the quality of results and outcomes might be affected by many factors. As one of the inclusion criteria was publication language, the used data was only in English, Russian, or Finnish languages. Thus, this might have affected the reliability of the outcome in this thesis. Other languages cannot be used, due to the unreliability of translation of texts that are in foreign languages for the researcher.

Additionally, the literature that was used during the data search process was limited by timeframe. The literature that was used could not be published later than by the year 2013. This data search limitation is a potential limitation that can affect the credibility of this work. A search strategy is another limitation that can perhaps lead to biased results. Search terms were limited. Thus, potential research possibly did not reach a researcher.

## 6.2 Ethical considerations and trustworthiness

Based on the European code of conduct, the 4 principles of good research practice are reliability, honesty, respect, and accountability (ALLEA 2020, 4). Violation of good research practice can affect factors such as resources, relationships between researchers, trust and credibility of research, and the research process as a whole. The action of violation of research can occur in different ways. The most severe actions are fabrication, falsification, and plagiarism (ALLEA 2020, 8).

Violating responsible conduct of research means acting dishonestly and against ethical principles. These actions might lead to low reliability of results (TENK 2012, 8). Based on TENK (2012, 8-9), violations of the responsible conduct of research can be realized either by misconduct or by disregard. Additionally, violations against the responsible conduct of research can be realized via actions such as authorship manipulation, or exaggeration of achievements (TENK, 9).

According to the Finnish Advisory Board on Research Integrity (TENK), to meet ethical criteria during the research process, researchers must be honest, particular, and precise during the whole research process (TENK 2012, 6).

A researcher must use ethically correct data acquisition methods, reference used sources in a duly way, plan and implement research according to the set requirements, acquire possibly needed permits, pay close attention to data protection (TENK 2012, 6-7), and in possible conflict of interest situation not participate in any sort of evaluation and decision-making situation (TENK 2012, 6-7; Näreaho, S., Kettunen, J. & Kärki, A 2020).

Näreaho et al. (2020) recommend, that to have an ethically approved thesis, it is essential for the researcher to familiarize itself with the topic accordingly, assess the resources, and familiarize itself with research ethics. In addition to that, a researcher must consider possible handling of personal data, a possible requirement of ethical advance evaluation, or a research permit (Näreaho et al. 2020).

The researcher of this thesis has been familiarized with research ethics with the assistance of Laurea University of Applied Sciences. In this thesis, there are no conflicts of interest. No personal data has been processed. A researcher has been familiarized with the topic in the best

way possible. To certify trustworthiness of Russian language that was used in the Global Window presentation, an external validator was utilized.

A researcher has been following ethics instructions of the European Code of Conduct and the Finnish Advisory Board on Research Integrity in the best way possible throughout all stages of implementing this thesis.

### 6.3 Recommendations

Considering recommendations for possible future research, it is desirable to take into consideration a few points, which are mentioned down below:

1. The sources examined in this thesis did not provide enough information related to the disadvantages of information and communication technologies. Based on previous research/studies. To get a better overall picture of information and communication technologies, it is recommended to explore this topic deeper.
2. The target group of this thesis is Russian-speaking people in Europe. This thesis has not covered the topic concerning language barriers. Thus, it is recommended for future studies to touch on the subject relating people of foreign origin and possible language barriers they face when using services, for instance, for health prevention.
3. More updated studies regarding HIV among Russian-speaking people would be beneficial. In this thesis, the mentioned studies were conducted in the 1990's.

## 7 Conclusion

Information and communication technologies provide convivence in many ways. They are affordable and available for broader audience. They contribute privacy, confidentiality, and anonymity. They increase knowledge, reduce stigma, shame, and discrimination, and help to reduce risky behavior and depressive symptoms (Ronen et al. 2020; Yeh et al. 2022; Niakan et al. 2017).

Information and communication technologies can be simply used to intensify HIV prevention and especially younger generation takes advantage from it (Niakan et al. 2017). These technologies are on the rise and can be accessed via variety of devices (Knight et al. 2017). End-users are provided with variety of preventive programs that can also be accessed via variety of social networking and media platforms (Niakan et al. 2017, 321; Ronen et al. 2020).

Predominantly, HIV transmission is prevalent among people who inject drugs, people who have heterosexual intercourse, bisexual, gay people, men who have sex with men. Additionally, migration among former Soviet Union countries widely promoted transmission of HIV (Amangaldiyeva et al. 2019; Bobkova 2013; Knight et al. 2017; Kuznetsov et al. 2013; Niakan et al. 2017; Ronen et al. 2020; Yeh et al. 2022).

Thus, these people would mostly benefit from HIV-related online education via information and communication technologies. The function of information and communication technologies is far-reaching, with central principle being HIV care continuum (Ronen et al. 2020).

The integrative literature review was conducted with the aim of providing HIV-related education material for Russian-speaking people in Europe, in order to strengthen the prevention of the disease. This thesis has provided essential data regarding the potential that web-based platforms have regarding prevention and knowledge distribution overall. Additionally, this research has proven that Russian-speaking people are in need of evidence-based knowledge, due to the fallacy information that they possess.

The expectation is for Russian-speaking people to gain more verity knowledge regarding transmission, symptoms, and treatment of HIV. Additionally, the platform will provide sources for more information. HIV education material will be seen on web page [www.globalwindow.fi](http://www.globalwindow.fi).

## References

- ALLEA - All European Academies. 2020. The European code of conduct for research integrity. Accessed 23 March 2023.  
<https://www.allea.org/wp-content/uploads/2017/05/ALLEA-European-Code-of-Conduct-for-Research-Integrity-2017.pdf>
- Amangaldiyeva, A., Davlidova, S., Baiserkin, B., Dzissyuk, N., DeHovitz, J. & Ali, S. 2019. Implementation of antiretroviral therapy (ART) in former Soviet Union countries. *AIDS research and therapy* 16, 35. Accessed 5 January 2023. doi: 10.1186/s12981-019-0251-1
- Bobkova, M. 2013. Current status of HIV-1 diversity and drug resistance monitoring in the former USSR. *AIDS* 15, 204-212. Accessed 20 December 2022.  
[https://www.researchgate.net/profile/Marina-Bobkova/publication/258313977\\_Current\\_Status\\_of\\_HIV-1\\_Diversity\\_and\\_Drug\\_Resistance\\_Monitoring\\_In\\_the\\_Former\\_USSR/links/55aa1e4008ae815a0425aeba/Current-Status-of-HIV-1-Diversity-and-Drug-Resistance-Monitoring-In-the-Former-USSR.pdf](https://www.researchgate.net/profile/Marina-Bobkova/publication/258313977_Current_Status_of_HIV-1_Diversity_and_Drug_Resistance_Monitoring_In_the_Former_USSR/links/55aa1e4008ae815a0425aeba/Current-Status-of-HIV-1-Diversity-and-Drug-Resistance-Monitoring-In-the-Former-USSR.pdf)
- Christmals, C. & Gross, J. 2017. An integrative literature review framework for postgraduate nursing research reviews. *European journal of research in medical science* 5 (1), 7-15. Accessed 20 April 2023.  
<https://www.idpublications.org/wp-content/uploads/2016/12/Full-Paper-AN-INTEGRATIVE-LITERATURE-REVIEW-FRAMEWORK-FOR-POSTGRADUATE-NURSING-RESEARCH-REVIEWS.pdf>
- Dhollande, S., Taylor, A., Meyer, S. & Scott, M. 2021. Conducting integrative reviews: a guide for novice nursing researchers 26 (5), 427-438. Accessed 10 April 2023.  
<https://doi-org.nelli.laurea.fi/10.1177/1744987121997907>
- Duodecim. 2021. HIV-infektio ja AIDS. Accessed 19 February 2023.  
<https://www.terveyskirjasto.fi/dlk01190>
- ECDC. 2022. HIV/AIDS surveillance in Europe. Accessed 16 March 2023.  
[https://www.ecdc.europa.eu/sites/default/files/documents/2022-Annual\\_HIV\\_Report\\_final.pdf](https://www.ecdc.europa.eu/sites/default/files/documents/2022-Annual_HIV_Report_final.pdf)
- ECDC. 2012. Country mission in Finland: HIV, sexually transmitted infections, and hepatitis B and C. Accessed 20 January 2023.  
<https://www.ecdc.europa.eu/sites/default/files/media/en/publications/Publications/HIV-sexually-transmitted-infections-hepatitis-B-C-mission-Finland.pdf>

Global Window. No date. Accessed 15 May 2023.

<https://globalwindow.fi/>

Harrison, R., Jones, B., Gardner, P. & Lawton, R. 2021. Quality assessment with diverse studies (QuADS): an appraisal tool for methodological and reporting quality in systematic reviews of mixed- or multi-method studies. *BMC health services research* 21,144. Accessed 19 August 2023. <https://doi.org/10.1186/s12913-021-06122-y>

Hiv.gov. 2022. The global HIV/AIDS epidemic. Accessed 5 March 2023.

<https://www.hiv.gov/hiv-basics/overview/data-and-trends/global-statistics/>

Knight, R., Karamouzian, M., Salway, T., Gilbert, M. & Shoveller, J. 2017. Online interventions to address HIV and other sexually transmitted and blood-borne infections among young gay, bisexual and other men who have sex with men: a systematic review. *Journal of the international AID society* 20, 3. Accessed 22 January 2023.

<https://doi.org/10.1002/jia2.25017>

Kuznetsov, L., Mattered, U., Crispin, A., Ruzicka, T., Zippel, S. & Kuznetsov, A. 2013. Knowledge, attitude and behavioural intention to act regarding HIV infection and prevention in immigrants from the former Soviet Union in Germany: a comparative study with the native population. *Journal of immigrant and minority health* 15 (1), 68-77. Accessed 18 January 2023.

<https://www.proquest.com/docview/1478096244/fulltextPDF/CC7C7C489A20470BPQ/1?accountid=12003>

Laurea student intranet. No date. Thesis is Master's studies. Accessed 18 December 2022.

[https://laureauas.sharepoint.com/sites/studentEn\\_thesisandgraduation/SitePages/Thesis-guidelines-for-University-of-Applied-Sciences-Master's-degrees.aspx](https://laureauas.sharepoint.com/sites/studentEn_thesisandgraduation/SitePages/Thesis-guidelines-for-University-of-Applied-Sciences-Master's-degrees.aspx)

Niakan, S., Mehraeen, E., Noori, T. & Gozali, E. 2017. Web and mobile based HIV prevention and intervention programs pros and cons - a review. *Studies in health technology and informatics* 236, 319-327. Accessed 19 March 2023.

<https://pubmed.ncbi.nlm.nih.gov/28508813/>

Näreaho, S., Kettunen, J. & Kärki, A. 2020. Responsible thesis. Ethical recommendations for thesis writing at universities of applied sciences 2020. Accessed 18 February 2023.

[http://www.arene.fi/wp-content/uploads/Raportit/2020/Ethical\\_recommendations\\_for\\_thesis\\_writing\\_%20at\\_UAS\\_2020\\_PP.pdf?t=1582533136](http://www.arene.fi/wp-content/uploads/Raportit/2020/Ethical_recommendations_for_thesis_writing_%20at_UAS_2020_PP.pdf?t=1582533136)

Prill, Robert., Karlsson, J., Ayeni, O. & Becker, R. 2021. Author guidelines for conducting systematic reviews and meta-analyses. *European society of sports traumatology, knee*



surgery, arthroscopy 29 (9), 2739-2744. Accessed 17 June 2023.

<https://web-p-ebscobhost-com.nelli.laurea.fi/ehost/pdfviewer/pdfviewer?vid=7&sid=3ad16552-1ef7-4ead-a53a-bb537adb22d1%40redis>

Renvik, T., Jasinskaja-Lahti, I. & Varjonen, S. 2020. The integration of Russian-speaking immigrants to Finland: A social psychological perspective. Springer. Accessed 17 February 2023. [https://doi.org/10.1007/978-3-030-36075-7\\_21](https://doi.org/10.1007/978-3-030-36075-7_21)

Ronen, K., Grant, E., Copley, C., Batista, T. & Guthrie, B. 2020. Peer group focused eHealth strategies to promote HIV prevention, testing, and care engagement. *Current HIV/AIDS reports* 17, 557-576. Accessed 20 April 2023. <https://doi.org/10.1007/s211904-020-00527-w>

TENK. 2012. Responsible conduct of research and procedures for handling allegations of misconduct in Finland. Accessed 15 March 2023.

[https://tenk.fi/sites/tenk.fi/files/HTK\\_ohje\\_2012.pdf](https://tenk.fi/sites/tenk.fi/files/HTK_ohje_2012.pdf)

THL. 2019. Hiv. Accessed 2 April 2023.

<https://thl.fi/fi/web/infektioaudit-ja-rokotukset/taudit-ja-torjunta/taudit-ja-taudinaiheuttajat-a-o/hiv>

Tibi-Lévy, Y., Serebryakova, D., Jauffret-Roustide, M. & ANRS-Coquelicot Study Group. 2020. Migration experiences, life conditions, and drug use practices of Russian-speaking drug users who live in Paris: a mixed-method analysis from the ANRS-Coquelicot study. *Harm Reduction Journal* 17 (55). Accessed 14 March 2023. <https://pubmed.ncbi.nlm.nih.gov/32778108/>

Tiido, A. 2019. Russians in Europe: Nobody's tool. The examples of Finland, Germany and Estonia. Estonian foreign policy institute. Accessed 7 January 2023.

[https://icds.ee/wp-content/uploads/2019/09/ICDS\\_EFPI\\_Analysis\\_Russians\\_in\\_Europe\\_Anna\\_Tiido\\_September\\_2019.pdf](https://icds.ee/wp-content/uploads/2019/09/ICDS_EFPI_Analysis_Russians_in_Europe_Anna_Tiido_September_2019.pdf)

Toronto, C. & Remington, R. 2020. A step-by-step guide to conducting an integrative review. Springer. Accessed 15 February 2023. <https://doi.org/10.1007/978-3-030-37504-1>

UNC. No date. Creating a PRISMA flow diagram: PRISMA 2020. Accessed 19 June 2023.

<https://guides.lib.unc.edu/prisma>

WHO. 2022. HIV. Accessed 2 April 2023.

<https://www.who.int/news-room/fact-sheets/detail/hiv-aids>

Yeh, T., Kennedy, E., Minamitani, A., Baggaley, R., Shah, P., Verster, A., Luhmann, N., Brito de Mello, M. & Macdonald, V. 2022. Web-based service provision of HIV, viral hepatitis, and sexually transmitted infection prevention, testing, linkage, and treatment for key populations: systematic review and meta-analysis. *Journal of medical internet research* 24 (12). Accessed 19 December 2022.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9816952/>

## Figures

Figure 1: 6 stages of integrative literature review (Toronto & Remington 2020, 6). .....	17
Figure 2: An hourglass model (Toronto & Remington 2020, 13). .....	17
Figure 3: QuADS Criteria (Harrison et al. 2021).....	42

## Tables

Table 1: PICO model.....	16
Table 2: Inclusion and exclusion criteria .....	19
Table 3: PRISMA flow diagram (PRISMA 2023) .....	20

## Appendices

Appendix 1: Timetable .....	37
Appendix 2: Quality assessment.....	38
Appendix 3: Characteristic of included studies .....	44
Appendix 4: Content analysis (mind maps) .....	48
Appendix 5: The Global Window presentation of HIV in English .....	51
Appendix 6: The Global Window presentation of HIV in Russian .....	63

## Appendix 1: Timetable

Before starting the work	-Choosing the topic -Selecting a method for carrying out a thesis	-Spring 2022 -08.12.2022
Planning stage	-Submitting topic proposal -Assigning a supervisor and an opponent -Presenting topic analysis	-Spring 2022 -Fall 2022 -16.11.2022
Implementation stage	-Literature search and data collection -Data evaluation -Data analysis and synthesis	-December 2022-May 2023 -June 2023 -June 2023 -21.04.2023
Completion stage	-Final thesis presentation -Thesis evaluation -Writing the maturity test -Publishing work	-08.11.2023 -05.12.2023 -02.12.2023 -December 2023

## Appendix 2: Quality assessment

	QuADS Criteria	0	1	2	3
1	Theoretical or conceptual underpinning to the research	No mention at all.	General reference to broad theories or concepts that frame the study.	Identification of specific theories or concepts that frame the study and how these informed the work undertaken.	Explicit discussion of the theories or concepts that inform the study, with application of the theory or concept evident through the design, materials and outcomes explored.
2	Statement of research aim/s	No mention at all.	Reference to what the sought to achieve embedded within the report but no explicit aims statement.	Aims statement made but may only appear in the abstract or be lacking details.	Explicit and detailed statement of aim/s in the main body of report.
3	Clear description of research setting and target population	No mention at all.	General description of research area but not	Description of research setting is made but is lacking details.	Specific description of the research setting

			of the specific research environment.		and target population of study.
4	The study design is appropriate to address the stated research aim/s	No research aim/s stated, or the design is entirely unsuitable.	The study design can only address some aspects of the stated research aim/s.	The study design can address the stated research aim/s but there is a more suitable alternative that could have been used or used in addition.	The study design selected appears to be the most suitable approach to attempt to answer the stated research aim/s.
5	Appropriate sampling to address the research aim/s	No mention of the sampling approach.	Evidence of consideration of the sample required.	Evidence of consideration of sample required to address the aim.	Detailed evidence of consideration of the sample required to address the research aim/s.
6	Rationale for choice of data collection tool/s	No mention of rationale for data collection tool used.	Very limited explanation for choice of data collection tool/s.	Basic explanation of rationale for choice of data collection tool/s.	Detailed explanation of rationale for choice of data collection tool/s.

7	The format and content of data collection tool is appropriate to address the stated research aim/s	No research aim/s stated and/or data collection tool not detailed.	Structure and/or content of tool/s suitable to address some aspects of the research aim/s or to address the aim/s superficially.	Structure and/or content of tool/s allow for data to be gathered broadly addressing the stated aim/s but could benefit from refinement.	Structure and content of tool/s allow for detailed data to be gathered around all relevant issues required to address the stated research aim/s.
8	Description of data collection procedure	No mention of the data collection procedure.	Basic and brief outline of data collection procedure.	States each stage of data collection procedure but with limited details or states some stages in detail but omits others.	Detailed description of each stage of the data collection procedure, including when, where, and how data was gathered such that the procedure could be replicated.
9	Recruitment data provided	No mention of recruitment data.	Minimal and basic recruitment data.	Some recruitment data but not a complete account.	Complete data allowing for full picture of recruitment outcomes.
10	Justification for analytic method selected	No mention of the rationale for the	Very limited justification or choice	Basic justification for choice of analytic method selected.	Detailed justification of analytic method selected.



		analytic method chosen.	of analytic method selected.		
11	The method of analysis was appropriate to answer the research aim/s	No mention at all.	Method of analysis can only address the research aim/s basically or broadly.	Method of analysis can address the research aim/s but there is a more suitable alternative that could have been used or used in addition to offer a stronger analysis.	Method of analysis selected is the most suitable approach to attempt answer the research aim/s in detail.
12	Evidence that the research stakeholders have been considered in research design or conduct.	No mention at all.	Consideration of some the research stakeholders.	Evidence of stakeholder input informing the research.	Substantial consultation with stakeholders identifiable in planning of study design and in preliminary work.
13	Strengths and limitations critically discussed	No mention at all.	Very limited mention of strengths and limitations with	Discussion of some of the key strengths and weaknesses of the	Thorough discussion of strengths and limitations of all aspects of study

			omissions of many key issues.	study but not complete.	including design, methods, data collection tools, sample & analytic approach.
--	--	--	-------------------------------	-------------------------	---

Figure 3: QuADS Criteria (Harrison et al. 2021)

References	1	2	3	4	5	6	7	8	9	10	11	12	13	Score	Score%
Amangaldiyeva, et al. 2019.	3	2	0	3	0	0	0	0	1	0	0	0	0	9/39	23%
Bobkova. 2013	3	2	0	3	0	0	0	0	1	0	0	1	0	10/39	26%
Knight et al. 2017.	3	3	3	3	3	3	3	3	3	3	3	2	2	37/39	95%
Kuznetsov et al. 2013.	3	3	3	3	3	3	3	3	3	3	3	2	2	37/39	95%
Niakan et al. 2017.	3	3	3	3	3	2	3	3	3	0	0	2	0	28/39	72%
Ronen et al. 2020.	3	3	3	3	3	3	3	3	3	3	3	3	1	37/39	95%
Yeh et al. 2022.	3	3	3	3	3	3	3	3	3	3	3	3	0	36/39	92%

## Appendix 3: Characteristic of included studies

Title and Journal	Author	Year of publication	Method and study design	Result	Quality assessment by QuADS Criteria
Implementation of antiretroviral therapy (ART) In former Soviet Union countries. AIDS research and therapy.	Amangaldiyeva, A., Davlidova, S., Baiserkin, B., Dzissyuk, N., DeHovitz, J. & Ali, S.	2019.	Review	Former Soviet Union countries still have to address a few areas for improvement regarding HIV care continuum.	23%
Current status of HIV-1 diversity and drug resistance monitoring in the former USSR. AIDS.	Bobkova, M.	2013.	Review	The reasons behind transmission and development of HIV are shortage of drugs, supply interruptions, possible low adherence in HIV-infected patients addicted to drugs, unwillingness to act, and a lack of information.	26%

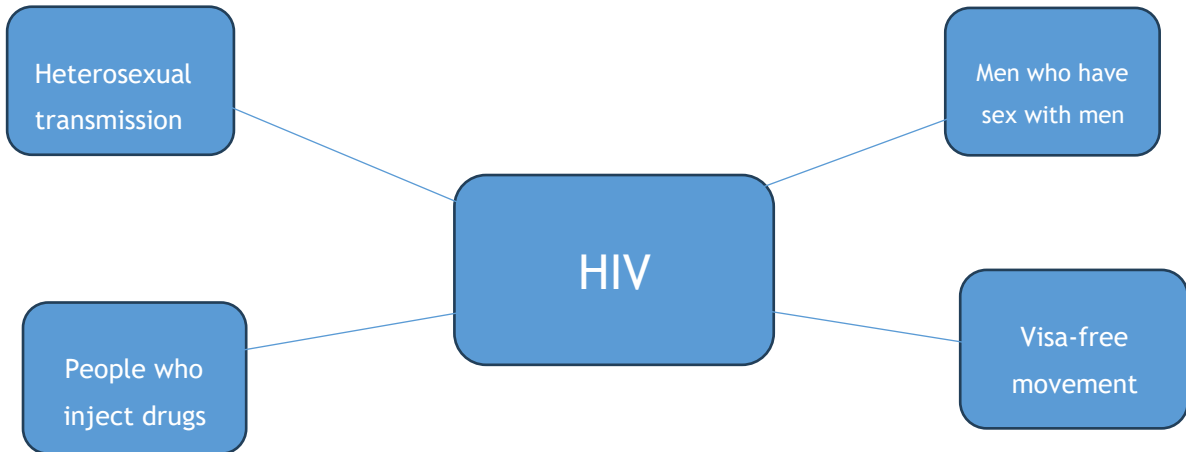
<p>Online interventions to address HIV and other sexually transmitted and blood-borne infections among young gay, bisexual and other men who have sex with men: a systematic review. Journal of the international AID society.</p>	<p>Knight, R., Karamouzian, M., Salway, T., Gilbert, M., Shoveller, J.</p>	<p>2017.</p>	<p>A systematic review (17 articles)</p>	<p>Online interventions have shown great results among HIV positive gay, bisexual, and other men who have sex with men. However, more investigation is needed regarding</p>	<p>95%</p>
<p>Knowledge, attitude and behavioural intention to act regarding HIV infection and prevention in immigrants from the former Soviet Union in Germany: a comparative study with the native population.</p>	<p>Kuznetsov, L., Mattered, U., Crispin, A., Ruzicka, T., Zippel, S. &amp; Kuznetsov, A.</p>	<p>2013.</p>	<p>A cross-sectional survey among 1205 former Soviet Union immigrant and 435 native Germans</p>	<p>The immigrants have less knowledge regarding HIV transmission and prevention. Additionally, immigrants have more misconception information related to HIV than native Germans do.</p>	<p>95%</p>

Journal of immigrant and minority health.					
Web and mobile based HIV prevention and intervention programs pros and cons - a review. Studies in health technology and informatics.	Niakan, S., Mehraeen, E., Noori, T. & Gozali, E.	2017.	A scoping review.	Web-based and mobile-based interventions have had great results in HIV prevention and intervention.	72%
Peer group focused eHealth strategies to promote HIV prevention, testing, and care engagement. Current HIV/AIDS reports.	Ronen, K., Grant, E., Copley, C., Batista, T., Guthrie, B.	2020.	Literature review, an online survey, and an international practitioner workshop.	eHealth services have shown great results in health-related interventions. More investigations are needed regarding, for instance, group interventions.	95%
Web-based service provision of HIV, viral hepatitis, and sexually transmitted infection prevention, testing,	Yeh, T., Kennedy, E., Minamitani, A., Baggaley, R., Shah, P., Verster, A., Luhmann, N.,	2022.	2711 records were identified, and 19 were selected in this systematic review and meta-analysis.	Web-based services have a lot of potential to expand different services for people that struggle with different types of sexually transmitted diseases, such as HIV.	92%

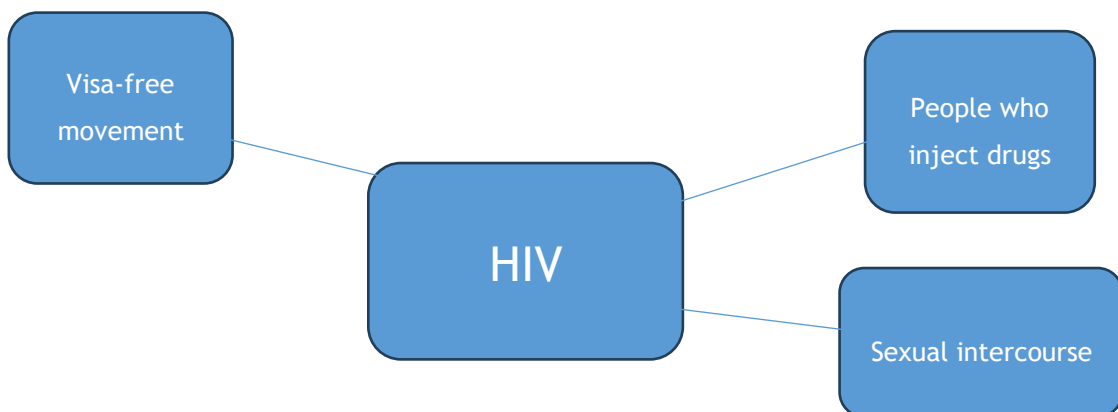
linkage, and treatment for key populations: systematic review and meta-analysis. Journal of medical internet research.	Brito de Mello, M., Macdonald, V.				
--	-----------------------------------	--	--	--	--

## Appendix 4: Content analysis (mind maps)

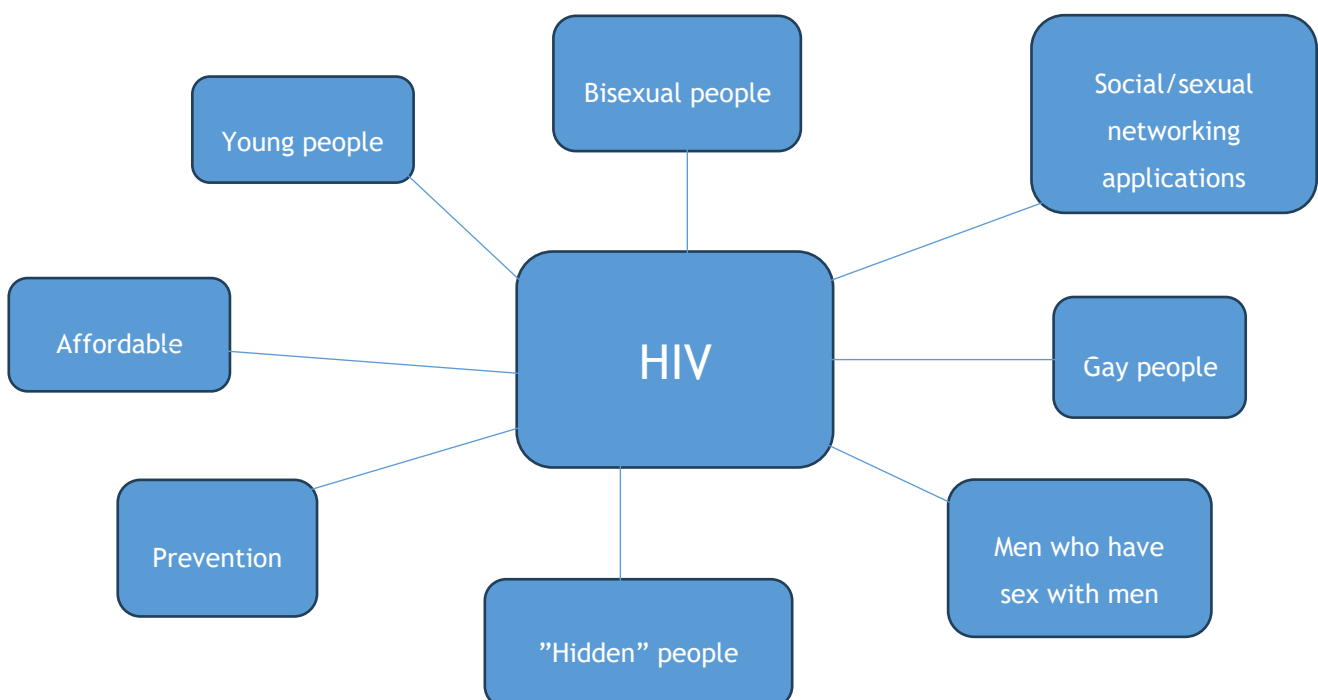
## 1) Amangaldiyeva et al. (2019)



## 2) Bobkova (2013)

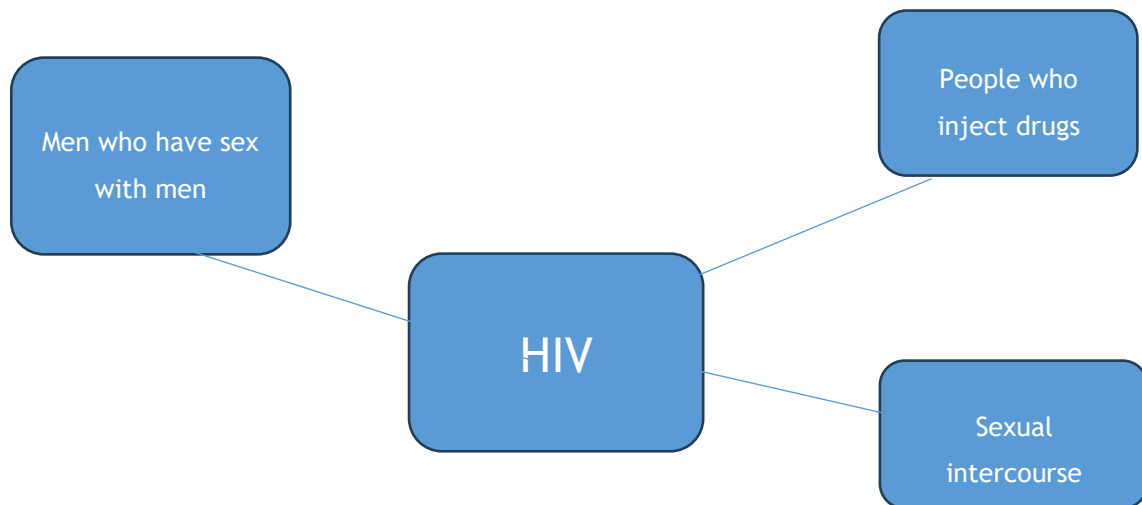


## 3) Knight et al (2017)

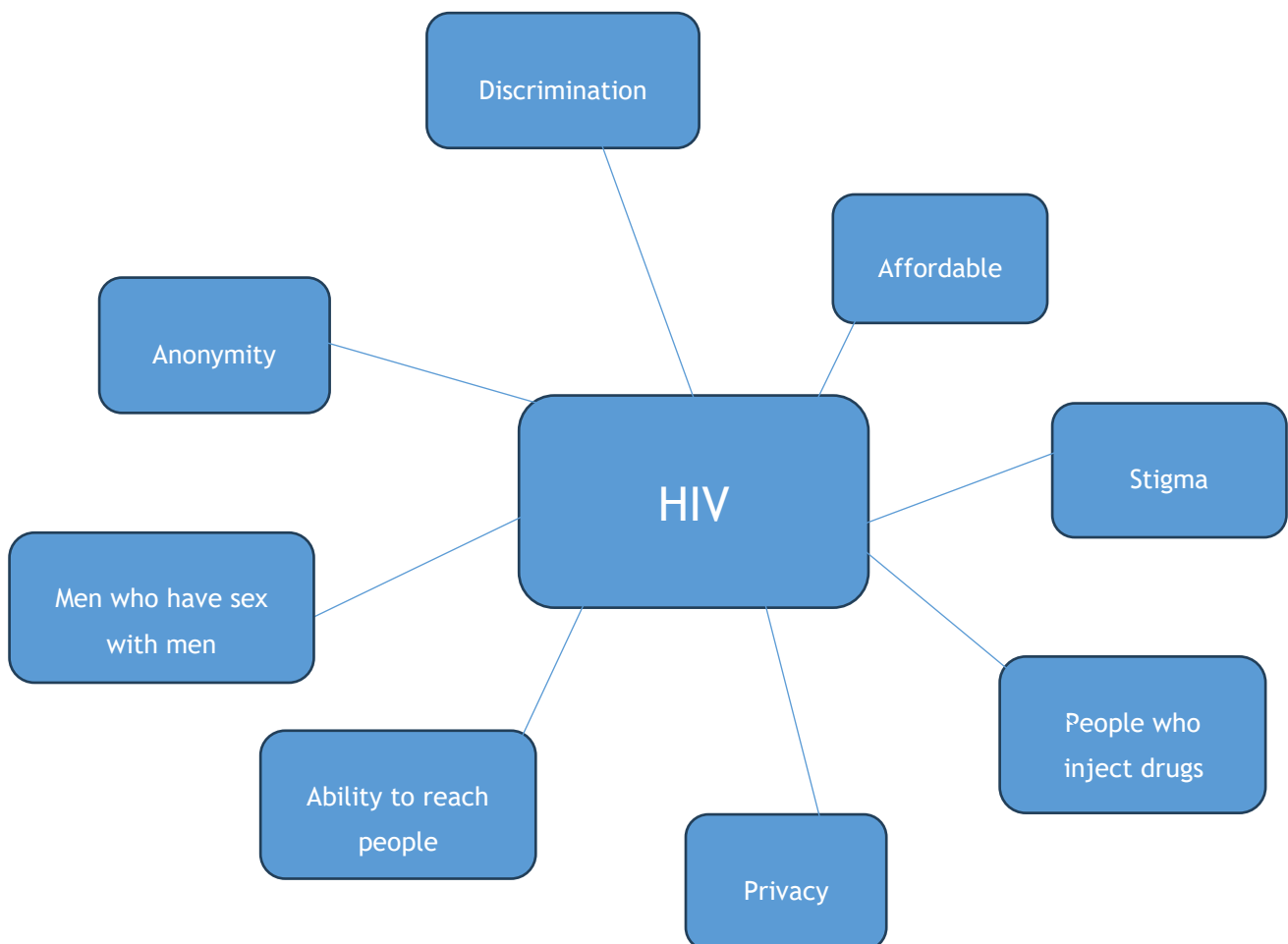




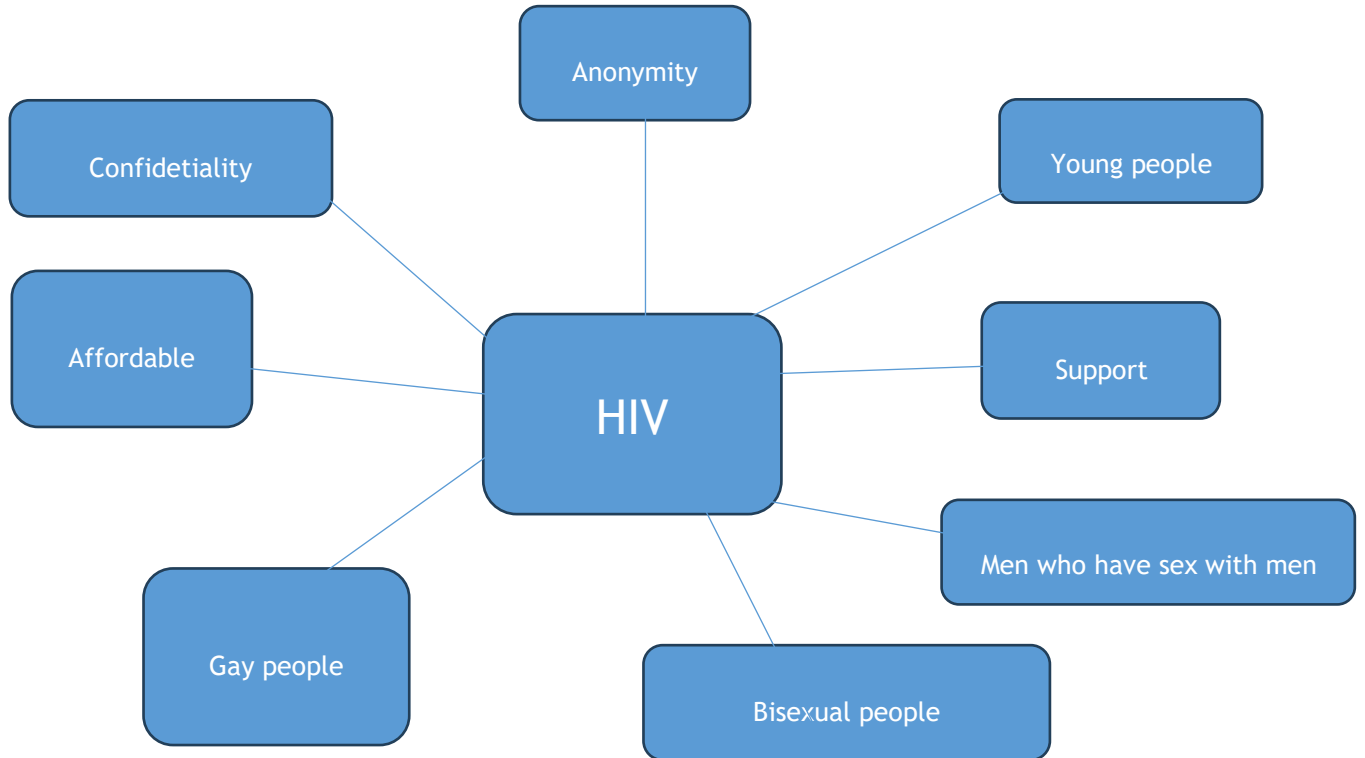
## 4) Kuznetsov et al. (2013)



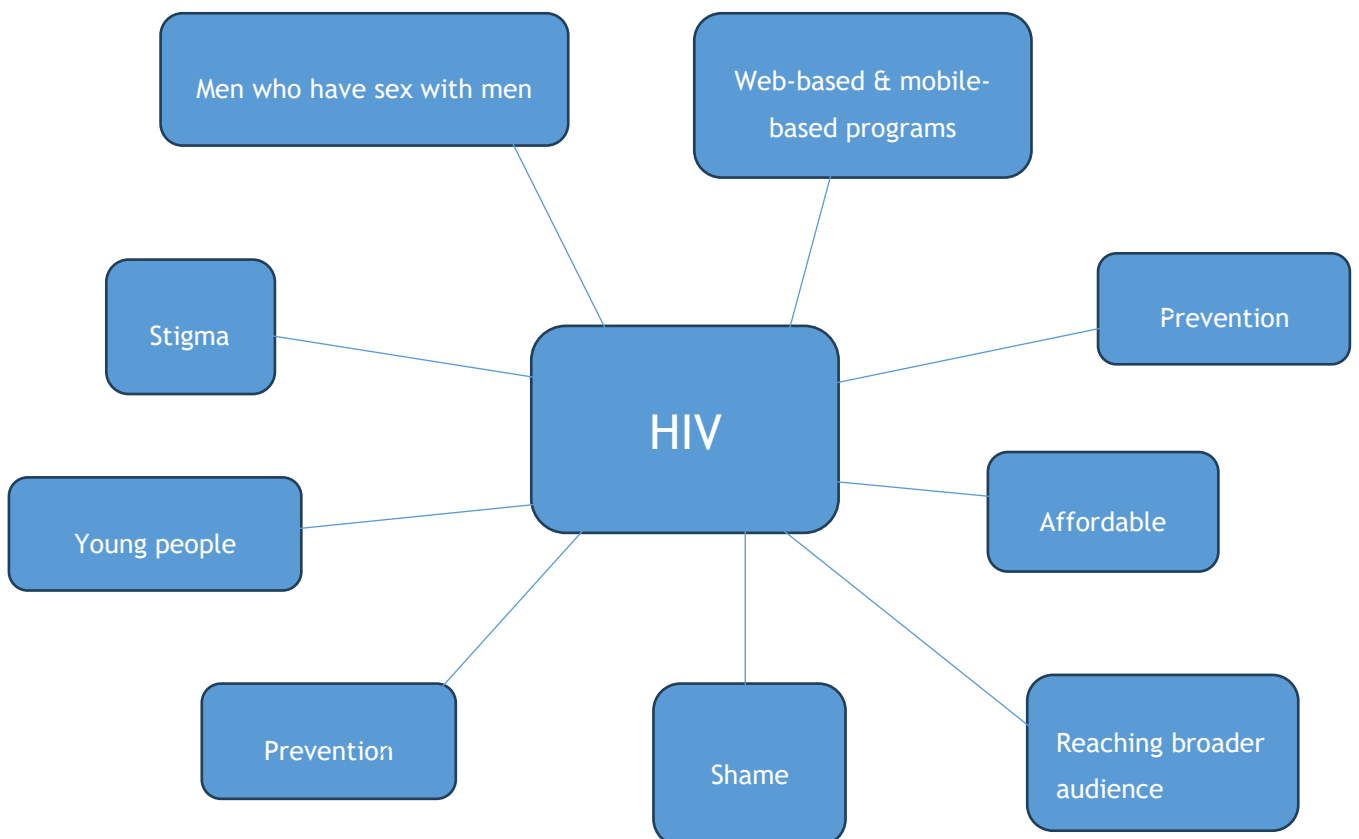
## 5) Yeh et al. (2022)



## 6) Ronen et al. (2020)



## 7) Niakan et al. (2017)



# WHAT IS HIV?

Sushchenko Nadezda

Master's Degree in Global Health and  
Crisis Management

DECEMBER 2023



# Background of the topic

- HIV among Russian-speaking people has been present since the end of the 1980's
- in 2021, many countries have reported an increase in HIV cases, and most cases were located in Russia, Ukraine, Moldova, Kazakhstan, Cyprus, Belarus, and Armenia
- the main reasons behind HIV transmission among Russian-speaking people were the visa-free system between former Soviet countries, sexual intercourse, and intravenous drug usage
- HIV education for Russian-speaking people is important, because:
  - a lot of knowledge related to HIV among Russian-speaking people is misconceived (for instance, the spread of HIV)
  - people, for instance, in Russia and Poland have not shown interest in having protected sex
  - in the former Soviet Union, risky sexual actions, ignorance, and discrimination toward people with HIV are highly common
  - people from the former Soviet Union have little knowledge of how HIV spreads and how spread can be prevented
  - in case of confirmed HIV infection, immigrants from former Soviet countries do not experience the importance in usage of condoms or informing a partner about the infection



# Background of the topic

- the presentation aims to enhance HIV prevention by providing HIV-related material on the Global Window platform
- the objectives of the presentation are to facilitate Russian-speaking people in Europe to gain knowledge of HIV and to spread information about existing online services
- the method used in this presentation was an integrative literature review
- PRISMA chart was used for the data search process
- the quality assessment for diverse studies (QuADS) tool was used for the quality assessment process
- the data was analyzed by using a content analysis approach



## HIV = human immunodeficiency virus

- a retrovirus, which attacks cells of the body's immune system
- leads to immunodeficiency
- immunodeficiency is a pathology in which the cells of the immune system stop actively functioning and the body is less resistant to various infections and diseases
- over time, if HIV is not treated properly, it can transform into a more serious disease called AIDS
- AIDS = acquired immunodeficiency syndrome



## Transmission routes

- unprotected sexual intercourse (vaginal, anal, or oral)
- through blood (needle stick injury, blood transfusion)
- from mother to child (during pregnancy, childbirth or breastfeeding)

### How HIV is not transmitted

- food, drinks, cutlery insect bites
- kisses, hugs, handshake



# The stages of HIV infection

## 1. Incubation stage

Lasts from the beginning of the infection to the onset of clinical manifestation of infection. The incubation period lasts approximately from two weeks to 6 months. At this stage, HIV is contagious but might not be seen during testing.

## 3. Subclinical or latent stage

On average, this stage lasts from 6 to 7 years and may be asymptomatic. The number of T-lymphocytes begins to decrease in the body.

## 5. Terminal stage

AIDS stage. The body cannot cope with infections or diseases, since the number of T-lymphocytes is critically low. Damage to internal organs begins and death occurs within a few months. The AIDS stage can last from 1-3 years.

## 2. Stage of primary manifestations

Antibodies begin to be produced. The first symptoms may appear (diarrhea, fever, swollen lymph nodes, stomatitis, rash, pharyngitis, enlarged spleen, fever, etc.). Symptoms usually appear for short periods.

## 4. Stage of secondary diseases

The immune system weakens. Obvious symptoms of HIV infection appear (weight loss and exhaustion of the body, lesions of the skin and mucous membranes, damage to internal organs and the nervous system, etc.).



## Prevention

- use of condom during sexual intercourse
- use of sterile medical instruments
- educating the population
- formation of a healthy lifestyle
- post-exposure prophylaxis = treatment with medications, tests, and counseling
- the risk of mother-to-child transmission of HIV can be reduced with antiretroviral therapy



## Symptoms

- weight loss
- diarrhea
- loss of appetite
- pain in the head, throat and muscles
- swollen lymph nodes
- skin rashes
- associated diseases such as pneumonia, tuberculosis, various types of cancer, etc. pharyngitis
- mouth ulcers
- fever
- nausea and vomiting
- muscle weakness
- neuropathy
- enlarged spleen and liver
- stomatitis



## Diagnostics

- laboratory testing of antibodies from blood
- express test for HIV from blood or saliva (the result is not official. If the result of the express test is positive, laboratory testing will be required to guarantee the results)
- In most countries, HIV testing is free of charge



## Treatment

- at the moment, there is no method to cure HIV infection
- there is a treatment due to which the life of a person with HIV infection will not be limited in quality or duration
- HIV treatment is a lifelong process
- HIV is treated with antiretroviral therapy (ART)
- antiretroviral therapy is a combination of two or three drugs
- ART stops the virus from reproducing and protects and restores immune system cells



## Links for more information

---

- Finland: <https://hivpoint.fi>
- Germany: <https://en.aidshilfe.de/>
- Estonia: <https://ehpv.ee>
- Ukraine: <https://phc.org.ua/kontrol-zakhvoryuvan/vilnid/statistika-z-vilnidu>
- Latvia: <https://balthiv.com/>
- Sweden: <https://www.hiv-sverige.se>
- Norway: <https://hivnorge.no>
- Spain: <https://www.eresvihda.es>
- England: <https://www.nat.org.uk/>
- Denmark: <https://aidsfondet.dk/>



## Reference

- Amangaldiyeva, A., Davlidova, S., Baiserkin, B., Dzissyuk, N., DeHovitz, J. & Ali, S. 2019. Implementation of antiretroviral therapy (ART) in former Soviet Union countries. *AIDS research and therapy* 16, 35. doi: 10.1186/s12981-019-0251-1
- Bobkova, M. 2013. Current status of HIV-1 diversity and drug resistance monitoring in the former USSR. *AIDS* 15, 204-212. [https://www.researchgate.net/profile/Marina-Bobkova/publication/258313977\\_Current\\_Status\\_of\\_HIV-1\\_Diversity\\_and\\_Drug\\_Resistance\\_Monitoring\\_In\\_the\\_Former\\_USSR/links/55aa1e4008ae815a0425aeba/Current-Status-of-HIV-1-Diversity-and-Drug-Resistance-Monitoring-In-the-Former-USSR.pdf](https://www.researchgate.net/profile/Marina-Bobkova/publication/258313977_Current_Status_of_HIV-1_Diversity_and_Drug_Resistance_Monitoring_In_the_Former_USSR/links/55aa1e4008ae815a0425aeba/Current-Status-of-HIV-1-Diversity-and-Drug-Resistance-Monitoring-In-the-Former-USSR.pdf)
- Duodecim. 2021. HIV-infektioja AIDS. <https://www.terveyskirjasto.fi/dlk01190>
- ECDC. 2022. HIV/AIDS surveillance in Europe. [https://www.ecdc.europa.eu/sites/default/files/documents/2022-Annual\\_HIV\\_Report\\_final.pdf](https://www.ecdc.europa.eu/sites/default/files/documents/2022-Annual_HIV_Report_final.pdf)
- Invitro. No date. ВИЧ. <https://www.invitro.ru/moscow/library/bolezni/24188/>
- Kuznetsov, L., Mattered, U., Crispin, A., Ruzicka, T., Zippel, S. & Kuznetsov, A. 2013. Knowledge, attitude and behavioural intention to act regarding HIV infection and prevention in immigrants from the former Soviet Union in Germany: a comparative study with the native population. *Journal of immigrant and minority health* 15 (1), 68-77. <https://www.proquest.com/docview/1478096244/fulltextPDF/CC7C7C489A20470BPQ/1?accountid=12003>
- THL. 2019. HIV. <https://thl.fi/fi/web/infektioaudit-ja-rokotukset/audit-ja-torjunta/audit-ja-taudinaiheuttajat-a-o/hiv>
- UNAIDS. No date. <https://www.unaids.org/en>
- WHO. 2022. HIV. <https://www.who.int/news-room/fact-sheets/detail/hiv-aids>

Appendix 6: The Global Window presentation of HIV in Russian

ДЕКАБРЬ 2023

# ЧТО ТАКОЕ ВИЧ-ИНФЕКЦИЯ?

Сущенко Надежда

Master's Degree in Global Health and  
Crisis Management



# Тематика презентации

- ВИЧ среди русскоязычного населения присутствует с конца 1980-х годов
- в 2021 году многие страны сообщили о росте чисел ВИЧ, большинство случаев было зарегистрировано в России, Украине, Молдове, Казахстане, Кипре, Белоруссии и Армении
- некоторые из основных причин передачи ВИЧ (безвизовая система между странами СССР, половой контакт, и внутривенное употребление наркотиков)
- просвещение в области ВИЧ важно, потому что:
  - многие знания, связанные с ВИЧ, ошибочны (например, распространение ВИЧ)
  - согласно исследованиям, некоторые люди в России, Грузии, Эстонии, Венгрии и Польше не проявляют особого интереса к защищенному сексу
  - в бывшем Советском Союзе широко распространены рискованное сексуальное поведение, невежество и дискриминация по отношению к людям с ВИЧ
  - иммигранты из стран бывшего СССР менее осведомлены о том, как распространяется ВИЧ и как его можно предотвратить
  - в случае подтверждения ВИЧ инфекции, иммигранты не придают значения к использованию презервативов или информированию партнера об инфекции



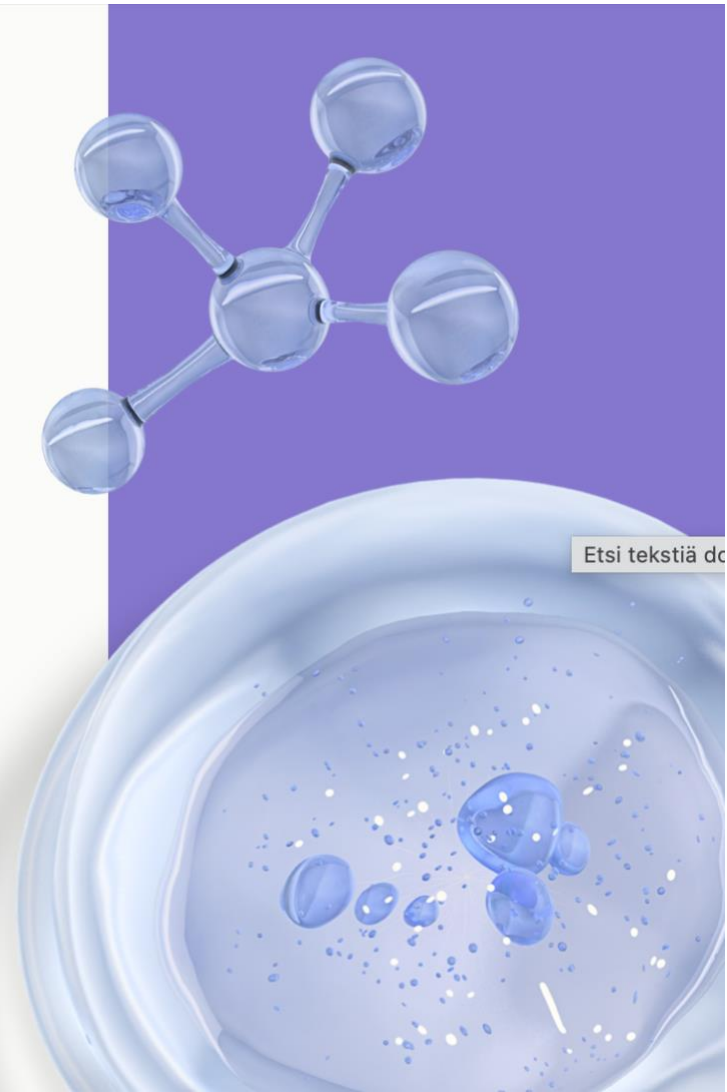
# Тематика презентации

- целью презентации является улучшение профилактики ВИЧ путем размещения материалов, связанных с ВИЧ, на платформе Global Window
- задачи презентации — помочь русскоязычным людям в Европе получить знания о ВИЧ и распространить информацию о существующих онлайн-сервисах
- метод, использованный в этой презентации, представляет собой интегративный обзор литературы
- диаграмма PRISMA использовалась для процесса поиска данных
- для процесса оценки качества использовался инструмент QuADS данные были проанализированы с использованием подхода контент-анализа



## ВИЧ = вирус иммунодефицита человека

- ретровирус, который поражает клетки иммунной системы организма
- приводит к иммунодефициту
- иммунодефицит это патология при которой клетки иммунной системы перестают активно функционировать и организм слабее сопротивляется разным инфекциям и заболеваниям
- со временем, если ВИЧ не лечить должным образом, он может трансформироваться в более серьезное заболевание, которое называется СПИД
- СПИД = синдром приобретенного иммунодефицита





## Пути передачи

- Незащищенный половой контакт (вагинальный, анальный, оральный)
- Через кровь (укол иглой, переливание крови)
- От матери ребёнку (во время беременности, родов или во время грудного вскармливания)

### Как не передается ВИЧ

- пища, напитки, столовые приборы
- укусы насекомых
- поцелуи, объятия, рукопожатие

## Стадии развития

### 1. Инкубационный период

длится от начала заражения до проявления клинических проявлений инфекции. Период длится примерно от 2 недель до полу года. На этой стадии ВИЧ становится заразным, но тестирование может не показать наличие инфекции.

### 2. Стадия первичных проявлений

вырабатываются антитела. Могут появиться первые симптомы (диарея, лихорадка, увеличение лимфатических узлов, стоматит, сыпь, фарингит, увеличение селезенки, повышение температуры итд). Симптомы часто кратковременные.

### 3. Субклиническая или латентная стадия

в среднем эта стадия длится от 6 до 7 лет и может проходить бессимптомно. Число Т-лимфоцитов начинает снижаться в организме.

### 4. Стадия вторичных заболеваний

иммунная система ослабляет. Появляются явные симптомы ВИЧ инфекции (потеря веса и истощение организма, поражения кожи и слизистых, поражения внутренних органов и нервной системы итд).

### 5. Терминальная стадия

стадия СПИД. Организм не справляется с инфекциями или заболеваниями, так как количество Т-лимфоцитов критически низкое. Начинается поражение внутренних органов и смерть наступает в течение нескольких месяцев. Стадия СПИДа может длиться от 1-3 лет.

## Профилактика

- пользование презервативами при половых контактах
- пользование стерильными медицинскими инструментами
- просвещение населения по проблеме
- формирование здоровый образа жизни
- постконтактная профилактика =лечение лекарствами, анализы, и консультирование
- снизить риск передачи ВИЧ от матери ребенку можно с помощью антиретровирусной терапии



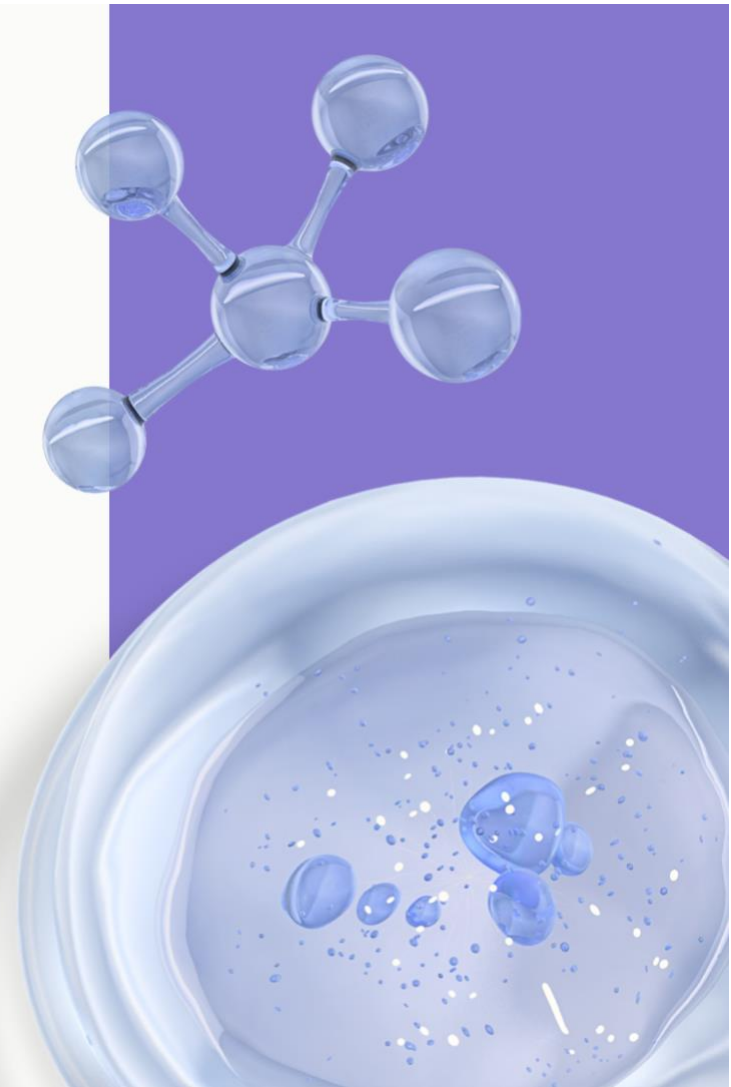
## Симптомы

- потеря веса
- диария
- потеря аппетита
- боль в голове, горле и мышцах
- увеличение лимфатических узлов
- высыпания на коже
- сопутствующие заболевания такие как пневмония, туберкулез, разные виды рака итд
- фарингит
- язвы во рту
- лихорадка
- тошнота и рвота
- слабость в мышцах
- невропатия
- увеличение селезенки и печени
- стоматит



## Диагностика

- лабораторное тестирование антител из крови
- экспресс тест на ВИЧ из крови или слюны (результат не официальный. При положительном результате экспресс теста понадобится лабораторное тестирование для гарантии результатов)
- В большинстве стран тестирование на ВИЧ бесплатно





## Лечение

- на данный момент не существует метода позволяющего излечить ВИЧ инфекцию
- существует лечение благодаря которому жизнь человека с ВИЧ инфекцией не ограничится в качестве или в продолжительности
- лечение ВИЧ это продолжительный процесс на всю жизнь
- лечение проходит с помощью антиретровирусной терапии АРТ
- АРТ это комбинация двух или трёх препаратов
- АРТ приостанавливает размножение вируса, и защищает и восстанавливает клетки иммунной системы



## Ссылки для получения дополнительной информации

- Финляндия: <https://hivpoint.fi>
- Германия: <https://en.aidshilfe.de/>
- Эстония: <https://ehpv.ee>
- Украина: <https://phc.org.ua/kontrol-zakhvoryuvan/vilsnid/statistika-z-vilsnidu>
- Латвия: <https://balthiv.com/>
- Швеция: <https://www.hiv-sverige.se>
- Норвегия: <https://hivnorge.no>
- Испания: <https://www.eresvihda.es>
- Англия: <https://www.nat.org.uk/>
- Дания: <https://aidsfondet.dk/>



## ИСТОЧНИКИ

- Amangaldiyeva, A., Davlidova, S., Baiserkin, B., Dzissyuk, N., DeHovitz, J. & Ali, S. 2019. Implementation of antiretroviral therapy (ART) in former Soviet Union countries. *AIDS research and therapy* 16, 35. doi: 10.1186/s12981-019-0251-1
- Bobkova, M. 2013. Current status of HIV-1 diversity and drug resistance monitoring in the former USSR. *AIDS* 15, 204-212. [https://www.researchgate.net/profile/Marina-Bobkova/publication/258313977\\_Current\\_Status\\_of\\_HIV-1\\_Diversity\\_and\\_Drug\\_Resistance\\_Monitoring\\_In\\_the\\_Former\\_USSR/links/55aa1e4008ae815a0425aeba/Current-Status-of-HIV-1-Diversity-and-Drug-Resistance-Monitoring-In-the-Former-USSR.pdf](https://www.researchgate.net/profile/Marina-Bobkova/publication/258313977_Current_Status_of_HIV-1_Diversity_and_Drug_Resistance_Monitoring_In_the_Former_USSR/links/55aa1e4008ae815a0425aeba/Current-Status-of-HIV-1-Diversity-and-Drug-Resistance-Monitoring-In-the-Former-USSR.pdf)
- Duodecim. 2021. HIV-infektioja AIDS. <https://www.terveyskirjasto.fi/dlk01190>
- ECDC. 2022. HIV/AIDS surveillance in Europe. [https://www.ecdc.europa.eu/sites/default/files/documents/2022-Annual\\_HIV\\_Report\\_final.pdf](https://www.ecdc.europa.eu/sites/default/files/documents/2022-Annual_HIV_Report_final.pdf)
- Invitro. No date. ВИЧ. <https://www.invitro.ru/moscow/library/bolezni/24188/>
- Kuznetsov, L., Mattered, U., Crispin, A., Ruzicka, T., Zippel, S. & Kuznetsov, A. 2013. Knowledge, attitude and behavioural intention to act regarding HIV infection and prevention in immigrants from the former Soviet Union in Germany: a comparative study with the native population. *Journal of immigrant and minority health* 15 (1), 68-77. <https://www.proquest.com/docview/1478096244/fulltextPDF/CC7C7C489A20470BPQ/1?accountid=12003>
- THL. 2019. HIV. <https://thl.fi/fi/web/infektioaudit-ja-rokotukset/audit-ja-torjunta/audit-ja-taudinaiheuttajat-a-o/hiv>
- UNAIDS. No date. <https://www.unaids.org/en>
- WHO. 2022. HIV. <https://www.who.int/news-room/fact-sheets/detail/hiv-aids>