



Nurses' role of raising awareness of HIV

Literature Review

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<p>Abstract:</p> <p>Because most Chinese people do not know the transmission way of HIV, they exaggerate or despise the spread of HIV. There is also the problem of stigma because sexual behavior can spread HIV, making it a shameful topic. It is considered that AIDS caused by HIV is a symbol of promiscuity, however in fact, in China's major "AIDS" villages, it is caused by selling blood.</p> <p>The aim and purpose of this study was to help nurses to educate people in China about HIV prevention to decrease the prevalence of HIV in China, according to the feasibility of publicity, and to expand the scope about HIV prevention in China.</p> <p>Through literature review and data analysis, this study concludes that media and lectures are the most effective ways to spread HIV prevention knowledge. According to the results of this study, the accuracy of classroom intervention is better than that of mass media, however the communication efficiency of mass media is higher than that of lecture. Therefore, based on China's national conditions, the future research direction of this topic is how to attract people's attention to HIV prevention in the most effective ways, and how to integrate health care personnel with mass media in society to make it easier for people to understand more accurate medical knowledge.</p>		
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Contents

1.Introduction.....	6
2.Concept of HIV.....	7
2.1 Definition and transmission of HIV.....	7
2.2 Prevention of HIV.....	8
3.Awareness of HIV.....	10
3.1. Awareness of HIV in China.....	10
3.2. Previous intervention to improve public awareness of HIV.....	10
4.Aim and purpose.....	12
5.Research methodology.....	13
5.1. Literature review.....	14
5.2. Data search.....	14
5.3. Data analysis and synthesis of data.....	16
6.Results.....	18
6.1. Media.....	18
6.2. Education.....	20
7.Discussion.....	22
7.1. Ethical consideration.....	22
7.2. Reliability and validity.....	22
7.3. Limitations.....	23
7.4. Discussion of main result.....	23
7.5 Conclusion.....	25
References.....	27
Appendix	
Appendix 1. Literature information.....	30
Appendix 2. Ten Steps guide.....	33
Table	
Table 1. HIV prevention and treatment interventions.....	9
Table 2. Selection criteria.....	14

Table 3. PICO's.....15

Table 4. Data search.....15

Table 5. Main categories and subcategories from the articles.....18

Figure

Figure 1. Example of data analysis process.....17

1. Introduction

According to the WHO report in 2019, AIDS, as a global public health problem, has caused more than 32 million deaths, and by the end of 2018, about 37.9 million people had been infected (WHO 2019.) Natividade (2010) developed 85 tests to assess the understanding of HIV and AIDS among people over the age of 18. Studies indicate low level of understanding of the illness. (Preto 2011). Currently, there are 75 million people in the world living with Human Immunodeficiency Virus (HIV) and 958 000 in China. (Radio France International, 2019).

Because contracting or spreading of HIV is seen linked to sex and drugs, it has led to extreme taboos and discrimination against HIV patients and carriers of the virus to a certain extent. Inaccurate information about HIV is being spread, for example community meals, hugs and other daily contacts will cause infections, hidden HIV infection hidden in shared bicycle seats, mosquito bites will cause infections, etc. (Zhou 2019).

In order to better prevent and understand HIV, nurses should abandon fear and prejudice. Instead of avoiding ignorance, nurses should take the initiative to understand relevant knowledge, avoid misunderstandings in prevention and control, and prevent the spread of HIV with a positive and healthy attitude. (He 2019).

The aim of this study is to find appropriate methods of popularizing HIV related knowledge. The purpose of this study is to help nurses to educate people in China about HIV prevention to decrease the prevalence of HIV in China, according to the feasibility of publicity, and to expand the scope about HIV prevention in China.

2. Concept of HIV

2.1 Definition and transmission of HIV

Human immunodeficiency virus (HIV) acts on the immune system to weaken its defense against infection or cancer. With the destruction and reproduction of the virus, the infected people gradually lose their immune function. The CD4 cell count is used to measure immune function. (WHO 2019.)

HIV is transmitted by body fluids, such as blood, breast milk, vaginal secretions, and semen. HIV can also be transmitted from mother to children during pregnancy or childbirth. Daily contact will not infect HIV, such as saliva, urine, feces do not contain enough virus to cause infection, so kissing, hugging, handshaking or sharing personal items, food or water will not cause infection, unless there is contact with the skin that has broken and bleeding. HIV is present in the blood, semen, emulsion, and reproductive organs secretory fluid of HIV infected persons. Because it cannot pass through the skin with structural and functional integrity, it can only enter the body through mucous membrane and damaged skin parts. (WHO 2019.)

Therefore, in the blood transmission route, HIV mainly invades the human body through the damaged skin; In the route of mother to child transmission, the milk of the mother infected with HIV can contact with the oral cavity, throat, esophagus and gastric mucosa of the baby, and HIV mainly invades the human body through the digestive tract mucosa; in the route of sexual contact transmission, the semen of male HIV infected people can have contact with female vagina, uterus, fallopian tube mucosa and male rectal mucosa. The vaginal secretion of female HIV infected people can have contact with male urethral mucosa. HIV mainly invades human body through genital tract and digestive tract mucosa. The infection rate of HIV in anal intercourse is higher than that in vaginal intercourse because the mucosa of rectum and intestines is easier to be damaged than that of vagina, and HIV is easier to enter human body and cause infection. (China CDC 2020.)

In China, 28.4% of the 780000 HIV infected people in 2011 were infected by injecting drugs; 6% were infected by contaminated blood, 1.1% were infected by mother to child transmission, and 0.4% of the 48000 new cases of HIV infection in that year were infected by mother to child transmission. Among men who have sex with men in China, the HIV infection rate is 6.3%. (UNAIDS 2012.)

Among the reported infected persons in 2017, 69.6% were heterosexual and 25.5% were homosexual. The mother to child transmission rate of AIDS has dropped to 4.9%. (China CDC 2018.)

2.2 Prevention of HIV

Reducing the AIDS infection rate can not only rely on the use of condoms, but also through male circumcision. At the same time, WHO has also developed related drugs to help people prevent AIDS. More importantly, people who are at risk of contracting AIDS should take the initiative to go to the hospital for regular check-ups and cooperate with treatment. It should be noted that, condom use can prevent the spread of sexually transmitted diseases, including HIV. There is evidence that male condoms can block more than 85% of sexually transmitted diseases. (WHO 2019.)

In addition, it is suggested that people who have high-risk behaviors such as sharing needles with others, many sex partners, especially someone with HIV/AIDS, exchanging body fluids, or who have been exposed to risk factors can be tested in time, which will make people have a clear understanding of HIV and access to prevention and treatment services. WHO recommends HIV testing for partners or couples. WHO also recommends that people with HIV be informed, with the permission of their partners, to assist in testing. (WHO 2019.)

People should be taught to avoid using any non-sterile tools to puncture the skin, such as needles and razors, and avoid cross infection. People should be aware of avoiding

direct contact with blood and collect and screen according to international standards when receiving blood collection or transfusion (International SOS 2015.)

Studies show that male circumcision reduces HIV infection by 57% in Kenya, Uganda, Tanzania, so data shows that male circumcision can effectively prevent HIV (Quarraisha 2010). For both homosexual and heterosexual couples, oral HIV preparation can make HIV negative people get retrovirus and block (one infected party is not infected), or people who are injecting drugs virus transmission. WHO is also preparing to extend the recommendation of oral HIV preparations to HIV negative women in pregnancy or lactation (WHO 2019.) HIV blocker refers to the use of retrovirus to prevent T -cells from contacting HIV within 72 hours after infection and adhere to oral blocker within 28 days. (WHO 2019). WHO (2019) also recommends that drug users use sterile syringes to prevent HIV. A set of HIV prevention and treatment interventions is presented in Table 1 below.

Table 1. HIV prevention and treatment interventions (WHO 2019).

HIV testing and counseling
Use disposable needles and syringes
AIDS treatment and care
Education of risk information
Use condoms
Management of STD transmission, tuberculosis, viral hepatitis

Mother to child transmission refers to the transmission of HIV from mother to child during pregnancy, delivery, and lactation. If mothers receive antiretroviral drugs during this period, the risk will be eliminated from 15% to 45% to almost zero. WHO recommends retroviral treatment regardless of CD4 counts. (WHO 2019.)

Every mother infected with HIV should go to the hospital regularly for a physical examination. Proper risk prevention and control will reduce the risk of infection, so do not hide the disease. (Internationalsos, 2015)

3. Awareness of HIV

3.1. Awareness of HIV in China

In China, people's knowledge of AIDS prevention is very scarce. According to a survey, most Chinese living in remote rural areas did not understand the spread and prevention of AIDS. From August to September 2003, 3968 participants were found in seven towns in Beijing, Shanghai and other major cities, whose ages ranged from 16 to 60. The results showed that only 8.7% of the participants answered seven questions about HIV/AIDS correctly. Among them, the cognition of rural residents to AIDS is lower than that of urban residents: 96% of urban residents know about AIDS, while only 75% of rural residents know about AIDS. (EPOCH 2004.)

Another study investigated the cognition of AIDS among college students in Pidu District of Chengdu City in the form of questionnaire. Data analysis showed that the main way for students to acquire HIV knowledge was network, television and news media (79.09%) The overall awareness rate of AIDS related knowledge was 86.78%, and the awareness rate of boys was higher than that of girls. The rate of sexual activity was higher (22.87%, 467/2042), but the rate of condom use was lower (59.10%, 276 /467). Conclusion was that the awareness of AIDS related knowledge of college students needs to be improved, and the occurrence of sexual behavior was affected by many factors, so education and intervention should be carried out according to the influencing factors. (Gao 2018.)

3.2 Previous interventions to improve public awareness of HIV

Researchers conducted several studies on the role of interaction in the spread of AIDS knowledge. In a study the participants were divided into two parts: active and passive acceptance of information video; the subjects as the characters in the simulation case. The results of the study showed a video is an important mean to spread HIV knowledge, but video content should focus on prevention knowledge rather than patients' appeal. Research on the relationship between scientific content and its application is needed. In addition, technological development and its impact on society and environment can be an effective environmental risk and health risk strategy is needed to prevent AIDS epidemic. (Askevis-Leherpeux 2000.)

Another study found that highly educated individuals also have a higher understanding of HIV/AIDS. However, with the increasing use of the media, the gap in HIV/AIDS awareness between high and low levels of education was likely to narrow. (Bekalu 2014.)

4. Aim and purpose

The aim of this study is to find appropriate methods of popularizing HIV related knowledge. The purpose of this study is to help nurses to educate people in China about HIV prevention to decrease the prevalence of HIV in China, according to the feasibility of publicity, and to expand the scope about HIV prevention in China.

Research question:

- How can nurses raise awareness of HIV?

5. Research methodology

5.1 literature review

A literature review is a clear identification, evaluation, synthesis, review, and discussion of proof in a particular area (Bolderston 2008). Literature review can be described as a method of collecting and synthesizing previous studies systematically (Snyder 2019).

Systematic review was first developed in medical science as a method of synthesizing research results in a systematic, transparent and repeatable manner, and is called the gold standard in evaluation (Snyder 2019). The key to system inspection is in the application of qualitative evaluation: clear objectives, key search terms, identification of appropriate databases, review of results, design of multistage evaluation processes, extraction of data results, and summary in one form. At the same time, acknowledging the limitations and prejudices inherent in the process. In order to minimize research bias, researchers need to have a clear description of the questions and questions they want to investigate, as well as an idea about the methods used in the survey. At the same time, researchers should also give full play to their imagination in the research process and create, modify and adjust it on the premise of respecting the literature (Butler 2016.)

The purpose of a systematic review is to determine all conform to the prescribed standards of empirical evidence, in order to answer specific research question or hypothesis. Using clear and systematic way to review articles and all the available evidence, can minimize bias, thus providing reliable conclusions and decisions (Molher 2009.)

The importance of literature review lies in presenting science and its impact on practice and policy. It helps to synthesize the real situation and minimize meaningless

news, and research. Literature review is used to innovate and develop new theories and ideas (Joanna Briggs Institute 2017).

Literature research method is a convenient, safe and efficient method. First of all, it avoids the inaccuracy of verbal investigations and various recording errors that may occur. Secondly, the literature survey is not restricted by the outside world. As long as the necessary literature is found, the research can be conducted anytime and anywhere. Even if there are errors, it can be remedied through further research. Finally, the literature survey is based on the work of predecessors and others and is a shortcut to gain knowledge. It does not require a large number of researchers and special equipment, and can obtain more information with less manpower, capital and time than other survey methods. This is the reason this approach was chosen for this study.

5.2 Data search

The data in this literature review was filtered from the article database of CINAHL (EBSCO). Keywords were HIV/AIDS, prevention of HIV/AIDS, Chinese, methods, awareness. The selection criteria are shown in the Table 2.

Table 2. Selection criteria

1.Full text available for JAMK students
2.The articles searched are all in Chinese or English language
3.Scholarly (Peer Reviewed) Journals
4. Published from 2005 to 2021

Both researchers first made their own tables about the target population, phenomenon of interest, context and study type of research, and after thorough discussion these were combined in table 3, see below.

Table 3. PICO's (Inclusion criteria)

P	target population	people People who don't know about HIV
I	phenomenon of interest	Raise awareness by some methods Find methods to raise awareness
CO	context	HIV/AIDS knowledge or prevention
S	study type	Research

Through the keywords in the table, the results of data search are shown in Table 4.

Table 4. Data search

KEYWORDS	People, awareness, HIV/AIDS knowledge	Chinese people, raise awareness, HIV/AIDS prevention
DATABASES	CINAHL(EBSCO)	
RESULTS	316	125
Chosen on the basis of full text limiter, Scholarly	113	20
Chosen on the basis of year from 2005 to 2019	98	18
Chosen on the basis of language in Chinese or English	98	18
Final selection after reading full text	4	4

The selection criteria of the final articles are based on the current situation of Chinese society and the more feasible methods. A table of all the reviewed articles can be found in Appendix 1.

Ten-step guide to article evaluation proposed by Young and Solomon (2009) was used to screen the evidence available in these eight articles. Ten key questions can be used to assess the validity and relevance of research articles. Ten key questions and the assessments are presented in Appendix 2.

5.3 Data analysis and synthesis of data

The selected eight articles were interpreted through a content analysis method. Each of researchers screened and found understanding of the meaning from the eight articles, and then discussed, merged, and classified together.

Content analysis is not a single action, but a systematic research method. First step is to consider whether the content being analyzed has a hidden meaning while having a superficial meaning. Second step is to find the analysis unit. The analysis unit is preferably a whole, which has a central meaning in the sentence or paragraph. Third step is to shorten the text while retaining the core content and integrate the content with short sentences. Finally, the extracted content is classified and integrated with the same meaning. Each category must be different from each other. If there is more than one meaning in a content, it can be divided into multiple sub-categories. (Graneheim 2004.)

According to the content analysis method the articles were first read three times. Second, the content was found out based on the research question, and its summary was put into a new document. Third, this content found in the literature was formed into subcategories. Finally, the subcategories were classified into the same group, and each group was named as a main category. An example of analysis process is presented in figure 1.

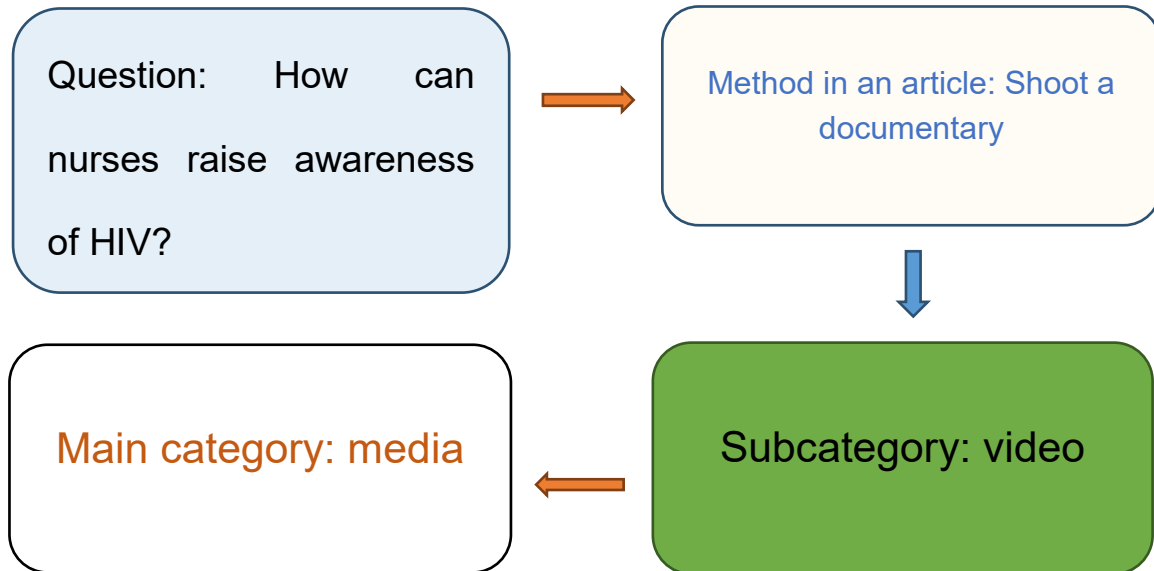


Figure 1. Example of data analysis process

6. Results

Results were summarized into two main categories, one for media and one for education. The media includes mass media, contests, the Internet and documentaries. Education includes the popularization of knowledge of medical staff to family, school and friends, by lectures, literature search and group discussions, and education through competitions. Main categories and subcategories are presented in Table 5.

Table 5. Main categories and subcategories

Research Question	Categories	Subcategories
How can nurses raise awareness of HIV?	MEDIA	<ul style="list-style-type: none"> ◆ Mass media ◆ Competition ◆ Internet ◆ Documentary
	EDUCATION	<ul style="list-style-type: none"> ◆ Lectures ◆ Explanations by medical staff for family, school or companion ◆ Competition

6.1. Media

Media is divided into four categories, mass media (including radio, television, magazines, leaflets, etc.), competitions, the Internet, and documentaries. They use their own methods to spread HIV prevention knowledge. It can be said that everyone has their own advantages.

Mass media. Studies have shown that the mass media is the most effective way to publicize AIDS prevention, and called on the mass media to take responsibility for HIV health education, using radio, television, magazines, leaflets, etc. (James 2005, Zhang 2019). For example, the government has developed the basic principles of HIV and STI health education and published the official HIV/AIDS Basic Information Manual, which was a form of mass media promotion (Zhang 2019).

Competition. Comic novels and poster contests were used to promote knowledge of how to prevent and intervene in HIV/AIDS and attitudes toward HIV/AIDS at the

University of Florida. The work and background stories of the contest were shared via Facebook to promote and market HIV Books and posts on Facebook, explaining the format of the competition and information on investment. (Norton 2019.)

Internet. AIDS caused by HIV is a major contributor to morbidity and mortality in South Africa. In Western culture, the Internet is considered the most important way to intervene and prevent, especially for young people. According to the survey, 41% of young people have changed their behavior due to information found online. The Internet has overcome many of the difficulties and challenges brought about by traditional interventions. It was low-cost, crosses geographic barriers, protects people's privacy, and allows teens to learn about knowledge in an environment where they can't feel shame and fear. The Internet has advantages as an intervention to deliver HIV prevention methods. (Ybarra 2006.)

Documentary. Spreading the message of HIV prevention through documentaries can make it easier for people to grasp complexity and engage with the topic without undermining the value of truth. When people watch documentaries, they may hold a skeptical attitude, connecting their imagination of life, and discuss with other people to deepen their understanding of HIV. The information of the documentary enables the audience to have a sense of authority. They no longer passively absorb knowledge but expand the scope of knowledge of HIV prevention through suspicion and exploration. The impact of visual anthropology on people is very comprehensive. (Levine 2007.)

6.2 Education

After summarizing the classification of the media, education aspect was analyzed. Educational aspects include lectures, explanation by medical staff or family member or school or companion and competition. The competition appears in both aspects, this decision was negotiated by the two researchers, because this method has both the media level and the educational level.

Lectures. Referring to the both articles here, which used to popularize HIV knowledge to the public, but the two articles take different forms of verification to prove the role of the lectures.

In Geethika's study (2017), volunteers took part in education lectures, followed up and participated in discussions and activities in the form of groups, in order to better understand knowledge of the participants. At the same time, people living with HIV have also been added to acquire AIDS related knowledge for more professional medical volunteers. (Geethika 2017.)

The method of a study by Gao (2012) was to find volunteers to participate in the questionnaire survey first, to count the initial awareness of HIV. Then, in the form of lecture intervention, they publicized the knowledge of popular science of HIV, aiming to let volunteers participate in the questionnaire survey again after receiving education.

The results of the study proved that when the volunteers participated in the lecture and answered the questionnaire again, their cognition of HIV prevention and the accuracy of the answers were significantly improved. It is proved that the lecture intervention can generally improve the cognitive level of the participants, and the participants have a clearer understanding of HIV prevention knowledge. Therefore, lecture intervention is targeted and effective for popularizing science. (Gao 2012.)

Explanation by medical staff to family member, school or companion

According to the survey statistics, most people know the knowledge of HIV prevention from the explanation of people around them, such as hospital doctors' explanation, school carried out health knowledge popularization activities, family members read the relevant news and peers discuss the information they have found (Zhang 2019, Dunnet al. 1998).

A questionnaire survey was used to count people knowledge of HIV knowledge and the ways in which people obtain HIV prevention knowledge in their daily lives.

According to the results, people get the most knowledge about HIV from medical staff, and HIV health education efforts are too much relied on medical staff. (Zhang 2019.)

Teens are more likely to receive sex-related information from their peers, which increases the credibility of their knowledge through discussion. Partners can also increase their knowledge and skills related to HIV prevention through the intervention process. (Dunnet al.1998)

Competition. The library is an ideal partner for community health information promotion. In a study, they invented a health promotion project by setting up an AIDS graphic novel contest, and invited students from the University of Florida to participate in it, taking the initiative to understand the origin of AIDS, the way of transmission and prevention, and using their imagination to make comic short films, and select shortlisted works after evaluation. They were edited into a magazine and displayed at a local community event on World AIDS Day. Through this competition, the students of the University of Florida developed a strong interest in the formation and prevention of HIV. They learned and made a short comic film for people to watch and vote on, which made the participants and followers have a deep impression on the prevention of HIV and played a good science popularization effect. (Norton 2019.)

7. Discussion

7.1 Ethical consideration

In this paper, ethics is followed and there is no exaggeration of the research purpose and no misleading of the research results. The data protection law was followed, there was no fraud to exaggerate the effect of the data from other papers, and there was no plagiarism. (Bryman 2007.)

In this study of HIV prevention, there was not any words that discriminate against HIV/AIDS patients, and any discriminatory and insulting words should be avoided when asking questions and researching questions. (Saunders 2012). All reviewed articles were approved by an ethical committee.

7.2 Reliability and validity

The validity and reliability of this study is based on the premise that the information used in this study comes from online database JAMK has access to. This database is very rigorous because it contains information based on science and evidence. Students can access and research articles online through the JAMK library. Researchers can access valid and reliable information in the CINAHL (Ebsco) database. At the same time, the articles selected to answer this research question meet the screening criteria of Table 2. The instructor of the nursing degree course further checked to determine whether the information used in the study is truly available, and further reiterated the validity and reliability of this study. The study used literature review methodology. Through the understanding of the literature, different methods of promoting HIV awareness were found summarized. Effective dissemination of HIV prevention methods is the focus of this study, which applied to all articles.

Through the interaction between professionals, relevant personnel and instructors, it constitutes an error correction mechanism, through continuous feedback from the personnel of both sides, to increase the effectiveness and reliability of the article.

Methods and results of the study were evaluated from the feedback of all researchers. Through meetings, repeatedly discussing the opinions, reaching consensus, reporting the objections in the research, and considering all opinions was conducted to achieve effectiveness. (Schwaninger 1996.) The results of the research question are repeatedly constructed. In the process, the results of this study were repeatedly reviewed, the researchers shared meaning, and reached a common understanding, which eventually evolved. This process increased the validity and reliability of the article. (Boesch 2013.)

This study was conducted by two researchers who used the previous ten-step evaluation method to evaluate the review (Solomon 2009.) The evaluation results are shown in the Appendix 2.

7.3 Limitations

Our literature review has some limitations. First of all, the methods suitable for other countries to promote HIV knowledge may not be applicable to China. Second, most of the reviewed studies were about how the government promotes knowledge about HIV, and there is no corresponding way for nurses to spread HIV prevention methods as same as the government. Third, in the search for literature, Chinese researchers have few articles on this aspect, indicating that the disease has not attracted the attention of some professionals.

Since the screening criteria for the literature review is from 2005 to 2019, the language only selected English and Chinese, so some other articles that meet our research are excluded because of language and time constraints.

7.4 Discussion of main results

Research shows discrimination against people affected with HIV is widespread. How to use the media and education to put an end to this phenomenon and at the same time

improve people's understanding of HIV needs to be explored. Moreover, how nurses use this research to improve people's knowledge of HIV needs more attention. In view of the traditional mode of Chinese education, researchers believe that this is still a major difficulty. How to change the conservative thinking of the Chinese people and improve the Chinese people's understanding of HIV is still the direction of future research.

Zhang (2019) indicated that both general education and HIV education are important. Increasing the level of general education can reduce discrimination against HIV and improve the ability of people with low socioeconomic status to understand public health information. School system health education should be taken as one of the effective ways to improve the health literacy of the whole nation. By hiring professionals to give lectures at the school, the correct knowledge will be passed on to family members and communities by the students. (Zhang 2019.)

Media can break the silence about how to publicize HIV prevention (James 2005). Among Internet users, adolescent boys and girls may search for HIV information online at all ages. Nurses can combine with relevant health knowledge websites to formulate prevention plans for adolescents of different ages, through online interventions, provide adolescents with correct health knowledge, and evaluate adolescents' sexual behavior. Nurses communicate with teenagers online through the Internet to provide teenagers with a more private environment so that they will not feel ashamed or afraid. (Ybarra 2006.)

Based on the articles analyzed for this study, mass media and lectures are efficient and feasible ways to educate the public to prevent HIV infection. As a nurse, first of all, we should understand the knowledge of HIV prevention, and through the process of working with patients, popularization of HIV prevention knowledge to patients with discrimination and misunderstanding of HIV. It can even be suggested to the hospital that the popular science animation of HIV prevention knowledge should be played on the public display screen in order to achieve better popular science effect.

Nurses can learn from this study what methods are easier for people to accept and understand HIV knowledge. Although most of the methods in this document are supported by foundations and governments, nurses can learn from each method. People are more willing to learn HIV knowledge through some interesting activities or platforms. Nurses no longer only unilaterally tell patients how to prevent HIV but motivate and empower people by participating in some media activities and community activities, letting people know that HIV is not far away from us, so that they are more interested in taking the initiative to promote knowledge about HIV.

China is a traditional country. Compared with many other countries, where parents can give children an in-depth explanation of sexual knowledge and how to protect themselves against HIV, it is more difficult for Chinese families. They think that children should not learn about sex-related topics prematurely. This study can also help nurses communicate with Chinese families and let children understand what sex is, what HIV is and the way of spreading HIV. It can also be seen as protection for children. The improvement of Chinese family thinking of sexual education can reduce the status of HIV expansion. (Xu 2015.)

For future research in this area, more research should be done from health care professionals' views. Although popularizing HIV prevention knowledge need government support, there is a need to know how to use the identity of the nursing students, with the most effective way to attract people's attention to HIV prevention, as well as in society, how to let the health care staff co-operate with the mass media, letting people more easily understand more accurate medical knowledge, is the topic for research direction in the future.

7.5 Conclusion

Teenagers aged 10 to 14 make up one sixth of the population in China. At present, 30 percent of Chinese teenagers' sex education knowledge mainly comes from books, periodicals and the Internet, while only 3 percent comes from mothers and only 1 percent from fathers. (Xie 2011)

There are many ways to publicize the knowledge of HIV prevention. Through the research results, it is found that increasing people's attention to HIV is the primary problem. Secondly, how to properly and effectively use these publicity methods to make people willing to accept the popularization of medical knowledge is a problem we need to think about. The core of this study is that nurses should learn how to use media and education to actively participate in the population and spread knowledge about how to prevent HIV.

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Appendix

Appendix 1. Literature information

Author(s)	Title	Aim and purpose	Key result	Country where the study was made
Tianqi Zhang, Yang Miao, Lingui Li and Ying Bian	Awareness of HIV/AIDS and its routes of transmission as well as access to health knowledge among rural residents in Western China: a cross-sectional study	Evaluate HIV / AIDS education coverage in China and people's access to health knowledge through local residents' knowledge of HIV / AIDS	The mass media has a greater responsibility in spreading AIDS and strengthening access to health knowledge for the elderly, children and minorities.	China
Hannah Norton, Margaret Ansell, Ariel Pomputius; Mary Edwards; Matthew Daley and Susan Harnett	HIV/AIDS information promotion at the library: creative campaigns for young adults	Through some creative activities, raise the awareness of college students and young people on HIV risk, prevention and treatment	The most beneficial and effective way to spread knowledge in novel ways	the USA

Susan Levine	Documentary film matters: The Steps for the Future media advocacy project in Southern Africa	Documentaries can provide more possibilities for HIV education and HIV prevention awareness.	Learning from the documentary model can provide people with AIDS knowledge and explain it, breaking the status of AIDS	Southern Africa
Xiaohui Gao, Yu Wu, Yu Zhang, Naixing Zhang, Jie Tang, Jun Qiu, Xiaofang Lin and Yukai Du	Effectiveness of School-based Education on HIV/AIDS Knowledge, Attitude, and Behavior among Secondary School Students in Wuhan, China	Use questionnaires to understand Chinese students' attitudes towards AIDS knowledge and awareness of AIDS prevention	School education is an important way to raise awareness of AIDS. Long-term HIV prevention education programs are effective, beneficial and successful.	China
Geethika N. Nanayakkara and Eun-Ok Choi	Using a unique public education model is effective in curbing the spread of AIDS, and the media is a powerful weapon against AIDS	Assess the impact of HIV education programs on student nurses' HIV knowledge and attitudes	AIDS education has significantly improved the attitude of nursing students to master AIDS knowledge and face AIDS patients.	Sri Lanka
Matt James, Tina Hoff, Julia Davis, and Robert Graham	Leveraging The Power Of The Media To Combat HIV/AIDS	How to use the media and public resources to keep HIV spread	Using a unique public education model is effective in curbing the spread of AIDS, and the media is a powerful weapon against AIDS	American Russia India

<p>Michele Ybarra, Julius Kiwanuka , Nneka Emenyonu and David R. Bangsberg</p>	<p>Internet Use among Ugandan Adolescents: Implications for HIV Intervention</p>	<p>Assessing the effectiveness of the Internet for safety and health interventions</p>	<p>The Internet is a better strategy to provide HIV / AIDS risk reduction interventions at a low cost.</p>	<p>USA</p>
<p>Linda Dunn Brenda Ross Tony Caines and Peggy Howorth</p>	<p>A school-based hiv/aids prevention education program: outcomes of peer-led versus community health nurse-led interventions</p>	<p>Compare peer interventions and community nurse interventions which are more effective for HIV prevention</p>	<p>Simple school interventions can improve teens' short-term behavior Knowledge, attitudes, self- efficacy and behavioral intentions for HIV / AIDS prevention.</p>	<p>Canada</p>

	Article 1		Article 2		Article 3		Article 4		Article 5		Article 6		Article 7		Article 8	
	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
Is the study question relevant?	√	√	√	√	√		√	√		√	√	√	√	√	√	√
Does the study add anything new?	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
What type of research question is being asked?	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Was the study design appropriate for the research question?	√	√	√	√		√	√	√		√	√	√	√	√	√	√
Did the study methods address the most important potential sources of bias?	√	√	√	√	√	√	√	√	√	√	√	√		√	√	√
Was the study performed according to the original protocol?	√	√	√	√	√		√	√	√		√	√	√	√	√	√
Does the study test a stated hypothesis?			√	√	√	√		√	√	√	√	√	√	√	√	√
Were the statistical analyses performed correctly?	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Do the data justify the conclusions?	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Are there any conflicts of interest?	√	√	√	√		√	√	√		√	√	√	√	√	√	√

Appendix 2. Ten steps guide

(If the article has reached the standard, in the corresponding box two members pick √)