

# Psychological Intervention for Young HIV Gay Living in China: A Clinical Psychology Study

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## Abstract

**Objective:** This experiment aims to conduct a professional psychological intervention on Young HIV Gay and evaluate the intervention's effect to provide a scientific basis for the prevention and treatment of AIDS.

**Methods:** This experiment applies clinical psychology and clinical medicine methods to conduct professional and systematic psychological interventions based on the results of the young HIV gay questionnaire assessment of AIDS-related knowledge. SPSS26.0 analyzed the experimental data, and the  $\chi^2$  test was used for single-factor analysis.

**Results:** 76 cases were included in this experiment, 38 cases in the intervention group, and 38 cases in the control group. The youngest case was 18 years old, and the oldest was 29 years old. The average age was  $19.18 \pm 4.58$  years old, and the 18-23 years old group accounted for 79.95%. Most of them are unmarried, college degree or above. The awareness rate of AIDS-related knowledge in the intervention group after the experiment was significantly higher than the control group ( $\chi^2=5.68$ ,  $P < 0.01$ ) before the experiment ( $\chi^2=11.50$ ,  $P < 0.01$ ), and the complete knowledge rate was also higher than the control group ( $\chi^2=8.08$ ,  $P < 0.01$ ) before the experiment ( $\chi^2=9.25$ ,  $P < 0.01$ ), the control group had no significant changes before and after the experiment. After the experiment, the intervention group detected 21 cases with  $CD4 \geq 500$  cell/mm<sup>3</sup>, accounting for 55.26% (21/38); the control group detected a total of 7 cases with  $CD4 \geq 500$  cell/mm<sup>3</sup>, accounting for 18.42% (7/38). Moreover, the intervention group's average CD4 count was 521 cell/mm<sup>3</sup>, which was higher than the average CD4 count of 242 cell/mm<sup>3</sup> of the control group. Furthermore, the average HIV-1 RNA (Viral Load) of the experimental group was 75 copies/mL, lower than the control group's 2000 copies/mL.

**Conclusion:** The demographic characteristics of experimental subject's present juvenile, and interventions need to be carried out as soon as possible. Young HIV gay's actual AIDS-related knowledge rate is not high. The health sector needs to increase its propaganda and intervention efforts. Psychological intervention can promote the recovery of CD4 of young HIV gay and reduce the viral load. Conducive to improving their life span and reducing the virus's spread, thereby controlling the AIDS epidemic

**Keywords:** Gay; HIV; AIDS; Psychological intervention

## 1. Introduction

In recent years, the number of young HIV gays among newly-infected human immunodeficiency virus (HIV) has shown an increasing trend, which has caused great challenges to social public health. Even the social recognition of homosexuality among young people is rising, but many male homosexuals still keep their sexual orientation secret. The

Centers for Disease Control and Prevention in the United States reported that between 2008 and 2016, the annual number of new HIV diagnoses among young men who have sex with men (those aged 13-29) increased by 3% per year, while decreasing 4% per year among men who have sex with men aged 30 to 49, and remaining virtually unchanged for men who have sex with men over the age of 50 (Jared Kaltwasser. 2018). Due to the current incurable nature of Acquired Immunodeficiency Syndrome (AIDS) and the public's misunderstanding of the disease, HIV-infected persons/AIDS patients suffer from physical illness and have great psychological pressure, which

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makes it easy to produce psychological distress. Psychological distress is a psychological, social, and spiritual unpleasant emotional experience caused by various reasons, which harms the disease's therapeutic effect.

The psychological problems of young HIV gay are closely related to high-risk sexual behaviors and treatment compliance. It is suggested that professional psychologists should intervene because the intervention can improve the protection awareness and treatment compliance of young HIV gay. Good social support systems and better economic conditions are conducive to improving patients' psychological resilience. Medical staff should pay attention to the mental health status of patients and reduce the depression of patients. At present, most studies rarely mention whether there are professional psychologists involved in young HIV gay intervention and specific psychological intervention methods. The effectiveness evaluation is mostly HIV knowledge awareness rate and sexual behavior survey, and no relevant indicators reflect the epidemic trend. Past research has a major focus on the cure of AIDS with different clinical trials, but less attention has been given to psychological aspects to reduce the spread of HIV. This study will help health experts and policymakers to look at the psychological aspects of HIV as well and formulate policies accordingly.

## 2. Literature review

Reducing the overall rate and frequency of HIV infection is a key public health goal in the world. In China, young HIV gay is still the majority. Understanding psychological intervention for young HIV gay living in China is important for developing interventions to promote reduce AIDS patients very important.

90% of those infected with HIV develop the deadly disease of AIDS within ten years of infection: the death toll from the disease has been enormous (Karpas, 2004). In the USA, HIV infections in MSM are estimated to be increasing at roughly 8% per year since 2001, and in much of Africa, Asia, and Latin America, the highest rates of HIV infection in any risk group are in these men (Beyrer et al., 2012). According to statistics released by the Ministry of Health in China, data in the past five years show that among the 15-24 years old, 96% of people infected with AIDS through sexual transmission, and 57% of men have been infected. Judging from the data from January to October 2020, among 15-24 years old students newly infected with HIV, infections caused by the same-sex accounted for 82%.

The results of scholars' research on psychological intervention for young HIV gay have always been direct interventions. Interventions have mostly adopted the form of single dissemination, such as the popularization of AIDS knowledge, social capital, and patients' emotional adjustment. However, many survey results show Men who have sex with men have a relatively high rate of knowledge about the transmission routes of AIDS, unsafe sexual behaviors, etc., the correct knowledge of HIV is insufficient, and interventions are poorly targeted, and the effect is not obvious (Patel et al., 2018; Parson et al., 2017; Hussien et al., 2018). Some scholars tried to carry out comprehensive intervention measures, and the results showed that it could improve the awareness rate of young HIV gay AIDS-related prevention knowledge, condom use rate, and HIV antibody testing rate, but the overall level is still low, the development of young HIV gay is getting worse (Hirshfield et al., 2016; Gamarel et al., 2019). Recent studies have shown that most young HIV gays have various psychological and behavioral problems after being infected with HIV, such as sexual indulgence, poor treatment compliance, and various psychological disorders (Hart et al., 2020). Young HIV gay is plagued by various mental health problems to varying degrees. The mental health of young HIV gay is related to the occurrence of dangerous sexual behaviors, and social discrimination leads to psychological pressure, prone to high-risk sexual behavior, reduced quality of life, and increased incidence (Downing et al., 2016). Studies have found that both individual psychological interventions and group psychological interventions can reduce HIV-infected patients' anxiety. Appropriate care and social support can improve patients' awareness of the importance of HIV prevention and transmission, actively adopt safe sex behaviors, and protect themselves and others (Smith et al., 2016). When individuals suffer from multiple psychological problems, they participate in high-risk sexual behaviors, and the risk of HIV infection will be greatly increased. Interventions for high-risk sexual behaviors and psychological problems need to be involved in professional psychologists (Moskowitz et al., 2017).

This paper aims to analyze the risk factors that hinder the physical recovery of young HIV gay in China by combining clinical psychology and clinical medicine, formulate an AIDS knowledge rate questionnaire, and develop systematic professional targeted psychology based on the questionnaire results. Psychology intervention has encouraged young HIV gay in China to adopt safe sex and reduce

the spread of HIV consciously. This study provides a scientific contribution to the world's AIDS prevention. There is no research report on the impact of young HIV gay behavior evaluation and psychological intervention on patients' physical condition.

### 3. Theoretical framework

The last 10 years have seen the development of a revolution in clinical psychology, a revolution that is not yet complete (Adams, & Boardman, 2018). For the development of clinical psychology, clinical psychological intervention theory, and intervention measures (psychotherapy and psychological, the validity of consulting) has always been very important. This is mainly due to the popularity of various methods widely used in psychotherapy and psychological counseling practice, but often without any theoretical basis. Although this method has been theoretically proven, even professional psychologists, consultants, and psychotherapists often fail to fully realize this connection, limiting these methods' possibilities and creativity. The theoretical validity of psychological intervention is still an urgent issue. Another reason is related to many existing and controversial ideas. These ideas first involve the dominance of a theoretical paradigm in this field, and secondly, "intervention" Its most general form expresses a certain influence, that is, it penetrates the interior to influence the process or result. Psychological interventions carried out by practical activities and tasks can traditionally be divided into teaching psychology, organizational psychology, and clinical psychology. It is patently clear that clinical psychology risks becoming irrelevant if it focuses narrowly on patients' intrapsychic worlds and confines itself to individual internal cognitive or neurobiological processes (Bantjes, 2020). When talking about clinical and psychological interventions, I want to talk about this concept the relationship with the concepts of psychotherapy, psychological counseling, and psychological correction. Not only to clarify its content, but not only from treating these concepts as concepts of different levels, but especially to clarify these contents, which may be meaningful.

There is no single psychotherapy method, but it mainly includes two methods: medical and psychological methods. Medical and psychological definitions use different terms (medicine-disease, patient, treatment process; psychology-cognition, emotion, behavior, problem, conflict, interpersonal interaction). Nevertheless, medical and psychological methods have nothing to do with

terminology but understanding what the concept captures. The outcomes of such efforts have often demonstrated comparatively low effects for medical epidemiology research compared to effect sizes seen in psychology. The conclusion has often been that relatively small effects seen in psychology research are as strong as those found in important epidemiological medical research. Many of the calculated effect sizes from medical, epidemiological research on which this conclusion has been based are flawed (Ferguson, 2009). The broadest definition of psychotherapy regards psychotherapy as a system that treats the psychology and the human body through psychotherapy: psychotherapy is the psychological impact. Obviously, this more traditional method does not reveal the details of psychotherapy. Psychotherapy also focuses on the means of influence. It should be noted that physical therapy, drug therapy, etc., are not meant to indicate an end, but a means of influence (physical therapy-exposure, physical therapy, drug therapy-drug therapy, etc.). In this case, psychotherapy is a therapeutic effect produced by psychological means. The new trends have value orientations that bear significant implications for psychotherapy (Yalom, 2020). Psychotherapy aims to help a person change cognition, emotion, behavior, and other personality characteristics in all participants' directions. The psychotherapy process is the most desirable. I would like to draw attention to the difference between this definition and the theoretical approach: the definition does not indicate the theoretical principle on which the impact is based, but lists all possible methods, but does not specify the main goal; it does not define the purpose and nature of the change. It seems impossible to give a more specific definition of psychotherapy within psychological methods because the goals and objectives and the nature of the process are closely related to the theoretical paradigm.

What is psychological consultation? This simple question has a complex answer (Dougherty, 2013). There is also no single understanding of the term "psychological consultation." Usually, psychological counseling is understood as professional assistance to an individual or a group of people to find a way to solve a certain psychological difficulty or problem situation. In psychological counseling, several directions or types are usually distinguished: problem-oriented, resource-oriented, and personal-oriented counseling. Psychological counseling aims to analyze the personal reasons for personal problems and conflicts and analyze their

own behaviors that may prevent such situations from happening in the future. It is difficult to draw a line between psychological treatment. Try to separate these concepts according to the expert and the client/patient's formal characteristics: the person performing the intervention- the doctor or psychologist, the client's health or illness. However, it seems more reasonable to analyze the differences, not based on the characteristics of customers or the professional affiliation of experts, but based on the intervention process's characteristics and professionals' activities. Naturally, we are talking about psychotherapy and psychological counseling's main focus because these functions may overlap in some cases.

In general, psychotherapy and psychological counseling may be considered as psychological types, more precisely, clinical psychological interventions. By analyzing clinical psychological intervention characteristics, we can determine the generality and particularity of psychotherapy and psychological counseling. The characteristics of clinical and psychological intervention include the choice of law; function (development, prevention, treatment, rehabilitation); goal orientation to achieve change; theoretical basis, that is, theoretical psychology; empirical verification; professional actions. By analyzing the first three characteristics, the characteristics of two types of clinical and psychological interventions can be determined. Clinical psychological intervention is a psychological tool chosen by a psychotherapist or counselor. They can be verbal or non-verbal, focusing more on cognitive, emotional, or behavioral aspects, and are between the patient or client (people in need) and therapist or counselor (those in need) Realized in the context of relationship and interaction. Who provides this assistance)? The typical psychotherapy is a conversation, training (exercise), or interpersonal relationship, which are the factors that influence and influence. The common point of psychotherapy and psychological consultation is the use of influential psychological means, but psychotherapy uses an extensive range of psychological means. In psychological consultation, the leading technology is information; that is, communication helps clients better understand their situation and find the solution information. The goal of clinical psychological intervention reflects the goal direction of achieving certain (cognitive, emotional, behavioral) positive changes. They determine the general strategy of influence and are completely related to the theoretical orientation. It is an unusual goal for clinical psychological intervention.

It also differs from the promotion of thought on the emotions connoting a relationship, an objective that we have more often defined as characterizing the clinical psychological intervention (Carli, & Panicia, 2017). Clinical Psychology Interventions can target broader and more distant goals (for example, restoration of mature personal functions, personality coordination, awareness, self-realization, development of personal resources), or more specific goals (for example, overcoming the fear of speaking in front of an audience).

#### **4. Research methods**

##### **Research design**

This experiment applies clinical psychology and clinical medicine methods to formulate a questionnaire that carries out validity and reliability test and correction and professional psychological intervention after evaluating young HIV gay living in China. To ensure the subjects informed consent, controlled research.

##### **Research subject**

In this study, a purposeful sampling method was used to select young HIV gay as the research object. Inclusion criteria:  $18 \leq \text{age} \leq 30$  years; people who have been diagnosed with HIV infection and are taking medication, have been taking medication for 1-1.5 years, have never stopped the medication, and are in a stable condition; gay male group; able to understand the questionnaire; volunteer to participate in this study. Exclusion criteria: critically ill patients; unconsciousness; unwilling to cooperate with the investigation. In a word, a research subject is a person who meets the age requirement and has had HIV. People with unconsciousness, mental illness, and mental retardation caused by drunkenness, poisoning, etc. are excluded; participation in this study follows the principle of voluntary, can fully understand the informed consent process, and they must agree to accept AIDS-related knowledge questionnaire evaluation, CD4 and HIV-1 RNA (Viral Load) detection.

##### **Assisting personnel**

Recruitment of assisting personnel: recruit and screen questionnaire distributors and psychologists from the target population through regional health departments, psychological associations, and volunteer organizations. The qualifications of questionnaire distributors include age  $\geq 18$  years old; strong sense of helping others; extensive young HIV gay relationship network; good organization and expression skills. Psychologists' qualifications

include age  $\geq 18$  years old; strong sense of responsibility; professional knowledge base; professional qualification certificate for psychologists; 3 years and above experience. Questionnaire distributors and psychologists do not limit the number of personnel.

#### Assisting personnel

First, the designer explained the purpose, meaning, and content of the project to the questionnaire distributors, explained the content of the questionnaire, and explained AIDS prevention knowledge, safe sexual behaviors, and correct communication skills for them. Secondly, the designer explained the purpose, meaning, and content of the project to the psychologist and clarified the young HIV gay's particularity. The psychologist should maintain a sense of responsibility and patience, avoid making the young HIV gay feel discriminatory, and always maintain empathy.

#### Research content

Mainly collecting age, ethnicity, marital status, place of birth, education level, occupation, etc. general demography information. AIDS-related knowledge questionnaire comes from the content of the monitoring questionnaire. There are 10 questions about AIDS-related knowledge. Personal answering 8 or more questions correctly is considered a high knowledge rate. Furthermore, the correct answer to 10 questions is the complete knowledge rate. Through serological testing to understand the CD4 and HIV-1 RNA (Viral Load) status of experimental subjects before and after the intervention.

#### Research steps

In this study, 76 new cases were investigated and interviewed in-depth. The sexual behavior and the reasons for infection were recorded. Cronbach's  $\alpha$  coefficient of the questionnaire was 0.875. Calculating the Spearman correlation coefficient was greater than 0.8, except for the frequency of detecting sexually transmitted diseases, which was 0.672. Factor analysis of 10 items was carried out to judge the scale's structural validity with the propensity factors involved in the reliability measurement. The KMO value is 0.608, Bartlett's sphere test value is 174.596, and the degree of freedom is 36, which indicates that there are common factors among the population's correlation matrices. Further factor analysis is performed to extract 3 common factors with characteristic roots  $> 1$  using orthogonal rotating

principal component analysis. The cumulative contribution rate was 65.866%, and the explanation proportion was moderate, indicating that most of the questionnaire's questions had good correlation, and the structure was consistent with the theoretical framework and research hypothesis designed in advance. It has high reliability and validity.

Subject groups are chosen voluntarily, one group is the control group, and the other group is the intervention group. Both groups need to accept questionnaire surveys, HIV antibody tests, CD4, and viral load tests. Based on receiving publicity and education on AIDS-related knowledge, the intervention group is intervened by clinical psychologists in the form of individual intervention and group intervention.

Group interventions, including: Firstly, relevant policy explanation. In a collective form, to introduce the general policies and special policies that AIDS patients can enjoy, as well as the current laws and regulations that still discriminate against AIDS patients, teach patients the correct coping strategies to face discrimination, and reduce discrimination due to the impact of anxiety, depression and other mental health problems on the quality of life of patients. Each session of the activity includes thematic discussion, knowledge lecture, and activity feedback. Secondly, the group counseling model. Adopting a behavioral intervention model that combines initiator-led and peer-driven to ease the patients' bad emotions by cultivating responsible, patient, and secretive group leaders. Thirdly, the Internet propaganda intervention model. Use relevant websites and media that serve AIDS patients as online platforms for psychological intervention, and it takes advantage of the immediacy and strong interaction characteristics of media to carry out psychological interventions for patients.

Individual intervention, including Firstly changing the patient's evaluation of reality. It can be analyzed that the process of cognition from the patient let the patient understand the limitations of their knowledge, recognize automatic thinking, identify cognitive errors, and help patients correctly understand their disease conditions to make a correct assessment of reality. Secondly, using rational mood therapy. Effective beliefs or appropriate emotional behaviors replace irrational beliefs and abnormal emotional behaviors to alleviate patients' symptoms. Patients should repel irrational beliefs, recognize homework, change self-suggestion content, guide reading and provide information and other cognitive operation

techniques and reasonable emotional imagination, overcome shame learning, unconditional acceptance and other emotional operation techniques to establish correct core beliefs and help patients establish correct emotional, physical and behavioral responses to diseases. Thirdly, utilizing the system desensitization method. Understanding the stimulus situations that cause the patients to perform abnormal sexual behaviors, formulate an anxiety level desensitization table, and then teach them how to counteract anxiety, depression, fear, and other bad emotions, so that they can relieve anxiety and feel relaxed; then learn to respond to relaxation. The technique systematically forms a situation of mutual inhibition with the anxiety from weak to strong, step by step to eliminate those adverse anxiety reactions, and finally eliminate the strongest anxiety reactions. It makes the patient establish a normal behavior pattern. Fourthly, applying relaxation therapy. According to certain practice procedures instructing them to learn how to relax their bodies, they learn to consciously regulate their own mental and physical activities to reduce their arousal levels and help them gradually get rid of the bad emotions. Relaxation training mainly includes silence or meditation, natural training, self-hypnosis, progressive muscle relaxation, and relaxation with biofeedback aid.

Intervention period and frequency depend on

the intervention method, such as cognitive behavioral therapy for 6-8 consecutive days from the day when the study subjects are included week, 3-5 sections each time, which does not exceed 60 minutes. 1 year later, to evaluate the AIDS-related knowledge, CD4, and viral load testing of the two subjects.

## 5. Research results

### Demographic characteristics

76 samples were collected in this experiment, including 38 cases (50%) in the intervention and control groups. The smallest is 18 years old, and the oldest is 29 years old. In this experiment subjects, the average age is  $19.18 \pm 4.58$  years old. The age is mainly 18-23 years old, accounting for 79.95% of the total number of experimental subjects; 70 unmarried experimental subjects, accounting for 92.11%, 6 married or cohabiting experimental subjects, accounting for 7.89%. There are 8 experimental subjects with junior high school and below, accounting for 10.52%, 10 experimental subjects with high school or technical secondary school degree, accounting for 13.16%, and 58 experimental subjects with a college degree or above for 76.32%. There are 60 students in occupation, accounting for 78.95%, 10 unemployed experimental subjects, accounting for 13.16%, and 6 workers, accounting for 7.89%.

Table 1. Demographic characteristics of the population

	Item	Number	Percentage (%)
Age	18-23	60	78.95
	24-29	16	21.05
Marital status	Unmarried	70	92.11
	Married or cohabiting	6	7.89
	Junior high school and below	8	10.52
Education level	High school or technical secondary school degree	10	13.16
	College degree or above	58	76.32
Identity	Student	60	78.95
	Unemployed	10	13.16
	Worker	6	7.89

Most young HIV gay is unmarried in the sexually active period, which is the age with a high incidence of HIV infection. Another feature of this experiment is that the majority of participants are highly educated, with strong comprehension. They can compete for effective communication with psychologists, accept long-term follow-up, and timely and effective feedback of various information ensured this experiment's smooth implementation. At the same time, the proportion of middle school students participating in the experiment is relatively high, versus a large number

of young HIV gays in the school is related to the above characteristics, which are the same as those of the young HIV gay AIDS epidemic. The group effective intervention to reduce the risk of AIDS transmission.

### AIDS-related knowledge

As shown in Table 2, before the experiment, the AIDS knowledge rates of the experimental group and the intervention group were 71.05% and 55.26%, respectively. The intervention group's complete knowledge rate was 31.58%, and that of

the control group was 21.05%. After statistical analysis, there was no significant difference between the two groups. After the experiment, the AIDS knowledge rate was 89.47% in the intervention group and 68.42% in the control group. The intervention group's complete knowledge rate was 68.42%, and the control group was 26.32%. The difference test showed that the AIDS knowledge rate was significantly higher than that of the control

group ( $\chi^2=5.68$ ,  $P < 0.01$ ). The complete knowledge rate is also higher than that of the control group ( $\chi^2=8.08$ ,  $P < 0.01$ ). Before and after the experiment, the AIDS knowledge rate in the intervention group ( $\chi^2=11.50$ ,  $P < 0.01$ ) and the complete knowledge rate ( $\chi^2=9.25$ ,  $P < 0.01$ ) were significantly improved the experiment, while the control group had no significant change.

Table 2. AIDS knowledge answer status and correct rate

AIDS knowledge issues	Intervention group(n=38)				Control group(n=38)			
	Before the experiment		After the experiment		Before the experiment		After the experiment	
	Correct answer	Correct rate (%)	Correct answer	Correct rate (%)	Correct answer	Correct rate (%)	Correct answer	Correct rate (%)
Is AIDS an incurable serious infectious disease?	30	78.95	38	100	27	71.05	36	94.74
Are men who have sex with men the most severely affected by AIDS?	25	65.79	36	94.74	18	47.37	32	84.21
Can a person be diagnosed with AIDS by his appearance?	30	78.95	36	94.74	29	76.32	34	89.47
Will HIV increase the risk of contracting other diseases?	34	89.47	38	100	30	78.95	36	94.74
HIV means no more sex?	31	81.58	38	100	32	84.21	37	97.37
Can the correct use of condoms reduce the risk of secondary infection and spread of AIDS?	28	73.68	38	100	21	55.26	29	76.32
Does drug increase the risk of HIV infection?	30	78.95	35	92.11	26	68.42	31	81.58
You should actively receive treatment?	30	78.95	38	100	28	73.68	37	97.37
Do you need to bear legal responsibility for deliberately spreading AIDS?	35	92.11	38	100	24	63.16	36	94.74
HIV infection means not working?	15	39.47	34	89.47	21	55.26	32	84.21
Answer 8 questions or more	27	71.05	34	89.47	21	55.26	26	68.42
Answer 10 questions	12	31.58	26	68.42	8	21.05	10	26.32

There are statistical differences between the intervention and control groups in terms of AIDS knowledge rate and complete knowledge rate before and after the experiment, indicating that professional psychological intervention can effectively improve this population's risk awareness. The experimental data shows that young HIV gay's AIDS knowledge rate is low, the risk awareness of AIDS infection is low, and the awareness of prevention is not strong. In the item "Can the correct use of condoms reduce the risk of secondary infection and transmission of AIDS?", most subjects could answer correctly. Through face-to-face interviews, it was found that the subjects'

use of condoms was limited to anal sex, while oral sex hardly used condoms. The population is not aware of the risks of oral sex.

#### CD4 and viral load detection

CD4 $\geq$ 500cell/mm<sup>3</sup> is recovering well. As shown in Table 3, before the experiment, 2 cases of CD4 $\geq$ 500cell/mm<sup>3</sup> were detected in the intervention group, accounting for 5.26% (2/38); 1 case of CD4 $\geq$ 500cell/mm<sup>3</sup> was detected in the control group, accounting for 2.63% (1/38). Moreover, the intervention group's average CD4 count was 207cell/mm<sup>3</sup>, which was lower than the average CD4 count of 215cell/mm<sup>3</sup> of the control

group. The average HIV-1 RNA (Viral Load) of the experimental group is 10000copies/mL, lower than the control group of 25000copies/mL. After the experiment, the intervention group detected 21 cases with  $CD4 \geq 500$ cell/mm<sup>3</sup>, accounting for 55.26% (21/38); the control group detected 7 cases

with  $CD4 \geq 500$ cell/mm<sup>3</sup> 18.42% (7/38). Moreover, the intervention group's average CD4 count was 521cell/mm<sup>3</sup>, which was higher than the average CD4 count of 242cell/mm<sup>3</sup> of the control group. Moreover, the average HIV-1 RNA (Viral Load) of the experimental group was 75 copies/mL, lower than the control group of 2000copies/mL.

Table 3. CD4 and viral load detection

project	Intervention group				Control group			
	Before the experiment		After the experiment		Before the experiment		After the experiment	
	Quantity	percentage (%)	Quantity	percentage (%)	Quantity	percentage (%)	Quantity	percentage (%)
CD4 $\geq$ 500	2	5.26	twenty-one	55.26	1	2.63	7	18.42
HIV-1 RNA (Viral Load) (copies/mL)	10000		75		25000		2000	
CD4 average Count(cell/mm <sup>3</sup> )	207		521		215		242	

After 1 year of the experiment, the CD4 and HIV-1 RNA (Viral Load) of the intervention group and the control group had significant changes. This experiment shows that professional psychological intervention can encourage more young HIV gays to maintain safe sex and actively receive treatment. However, due to the small sample size and short research time of this experiment, it is impossible to determine the disease trend effectively. It is necessary to expand the sample size and research cycle further to evaluate the effect of professional psychological intervention on the spread of AIDS.

## 6. Implications

In this experiment, young HIV gay shows a trend toward juveniles. The student population is more active in participating, and the cooperation and acceptance of intervention are also higher. The education and health departments should provide more convenient channels for consultation, testing, and intervention. Psychological intervention can significantly improve young HIV gay's AIDS knowledge rate. The department should consider professional psychologists' participation in the intervention work to improve the intervention's effectiveness. Psychological intervention can prompt more young HIV gays to treat and restore physical functions as soon as possible actively.

Studies have found that psychological intervention and timely treatment of sexually transmitted diseases can reduce the risk of young HIV gay deterioration. Health departments should establish or improve disease control and hospital referral mechanisms, increase medical staff training on AIDS prevention and control, and reduce the discriminatory attitude towards young HIV gay among medical staff in medical institutions,

especially in STD clinics. Set up relevant psychological intervention institutions and train psychologists to provide timely psychological treatment for young HIV gay. Disease control institutions should encourage young HIV gay with relevant symptoms to seek medical treatment and do a good job in referral service.

The survey found that the youngest young HIV gay in our city is only 18 years old. The young HIV gay juvenile trend is obvious, and AIDS prevention and control are lacking. These are often in the emergence of sexually transmitted diseases related symptoms to realize the risk of HIV infection, only began to pay attention to AIDS. At this time, young HIV gay has a high degree of anxiety, will take the initiative to consult and test, and has a high degree of acceptance and cooperation with the intervention, which is the best period for intervention. Therefore, it is necessary to set up AIDS knowledge popularization course among middle school students, find out the lower age group as soon as possible, and intervene as soon as possible.

Besides, increasing the rate of condom use is also a good way. 100% correct use of condoms during sex can effectively reduce the risk of secondary transmission of HIV. At present, some problems need to be solved urgently in young HIV gays, such as knowledge-behavior separation and low condom usage. The main reasons are low-risk awareness and barriers to condom acquisition. Therefore, it is necessary to increase the promotion of MSM to use condoms, implement condom placement in hotels and entertainment venues, and establish convenient, accessible, and free channels for obtaining condoms in the community.

This study provides a preliminary finding for the



psychological intervention research of AIDS patients and provides a treatment plan for doctors who are treating young infected people. At the same time, this study also provides a typical case for the clinical psychological intervention theory and contributes to its enrichment and development.

### 7. Limitation

Due to the particularity and complexity of young HIV gay, this study may have the following deficiencies: Firstly, China is one of the AIDS-endemic areas, and the results are restricted to young HIV gays in other countries or regions. The questionnaire covers a limited number of questions, and not all situations are considered. Secondly, this trial's sample size is relatively small, the places where men have sex with men are relatively hidden, and experimental samples are difficult to obtain. The mobility of this population type is also tremendous, and the follow-up is easy to lose. Thirdly, psychologists cannot help completely non-intervene due to medical ethics principles when evaluating the control subjects, which will affect the experiment results.

Because there are few related studies at present, for further research in the future, it should be added to the interdisciplinary research on the young HIV gay's clinical psychology and other sociology, political science, economics, ecology, and other disciplines, increase the sample size, enrich the research data, and achieve value the principle of neutrality is studied in different countries and regions in the world.

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