

# Thoughts on the optimization of care service mode for HIV infected people after induced abortion

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## Research Article

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# Abstract

**Purpose:** To improve the post-abortion care (PAC) service model by retrospectively comparing the characteristics of abortion with 34 HIV-infected patients and 493 non-infectious patients 580.

**Methods:** The investigator and the medical record room staff inquired the hospital's HIS system and paper medical records jointly, and retrospectively analyzed 527 cases of induced abortion in our hospital from May 2014 to December 2018. According to the inclusion and exclusion criteria, they were divided into two groups, HIV group and normal group. By a retrospective analysis of the social demographic characteristics, past history, and hospitalization of abortion patients with HIV-infected patients and non-infectious patients in a third - Class A infectious disease hospital in Beijing, analysis and discuss the basic Features of HIV-infected patients.

**Results:** Most of them were distributed among local young women with no fixed occupation and high education, and the awareness of tool contraception was not enough. Comparing the HIV-infected population with the normal population, the geographical features are statistically significant and may be related to the area of the survey hospital.

**Conclusion:** A professional volunteer service team was established and rely on the communication platform of the Red Ribbon House to improve the PAC service after HIV abortion.

## 1. Introduction

The number of induced abortions in China is 13 million per year, and the proportion of induced abortions with sexually transmitted diseases is 50–70% (Graham O et al., 2010). Currently, Acquired Immunodeficiency Syndrome (AIDS) has been listed as a key sexually transmitted disease in China (Jia Wenxiang, 2001), and this disease will lay a huge danger for the reproductive health of aborted women (Smith C et al., 2013). Up to 2016, more than 55 countries around the world have successively launched Post-Abortion Care (PAC) projects (Jin Meiyu et al., 2013). According to related reports, countries that implement PAC programs not only reduce the abortion rate by more than 25%, but also significantly reduce the repetitive abortion rate, prompt women to choose the correct contraceptive method, and avoid the harm caused by repetitive abortion (Liu Xinru et al., 2013). However, the clinical application of the service care program has certain limitations in China (Zhu Fengxin., 2019). There are still relatively short of reports on the follow-up status, existing problems and countermeasures of the PAC program for Human Immunodeficiency Virus (HIV) infected people (Yang Feng., 2019) Therefore, this study focuses on the basic characteristics of this population to lay the foundation for the effective implementation of the HIV population's PAC program.

## 2. Materials And Methods

### 2.1 Object of investigation

A cluster sampling method was used to select 34 HIV pregnant women who underwent an abortion and 493 pregnant women without HIV as the research subjects from May 2014 to December 2018 in the gynecological ward of Beijing Ditan Hospital, Capital Medical University. Inclusion criteria: ①18–49 years old, diagnosed as early intrauterine pregnancy by outpatient B-ultrasound examination (pregnancy  $\leq$  13 weeks); ②Voluntary request for artificial abortion (artificial abortion refers to the use of surgery or drugs to terminate the early pregnancy (Cao Zeyi, et al., 2014)); ③No mental illness or disturbance of consciousness. ④HIV group: Serum anti-HIV antibodies are positive, all are asymptomatic carriers. Normal group: no infectious diseases; Exclusion criteria: ①Unwilling to participate in the study; ②With mental illness and disturbance of consciousness; ③With genital inflammation, tumor, deformity, and severe systemic disease; ④Under the condition of perfect preparations for various operations, underwent artificial abortion. 1 week later, the color Doppler ultrasound showed that there was no abnormality in the uterus and accessories.

## 2.2 Method

### 2.1 Investigation method

The investigator and the medical record room staff inquired the hospital's HIS system and paper medical records jointly, and retrospectively analyzed 527 cases of induced abortion in our hospital from May 2014 to December 2018. According to the inclusion and exclusion criteria, they were divided into two groups, HIV group and normal group. General data such as age, previous operation history, contraceptive history, gestational age, and hospitalization (drug use, complications) of the two groups were analyzed. Written informed consent from the participants was not required to participate in this study in accordance with the national legislation and the institutional requirements. Ethical approval and consent to participate.

### 2.2 Statistical analysis:

SPSS20.0 statistical software was used for data analysis. Use SPSS 21.0 software to process the experimental data. The measurement data is expressed by mean and standard deviation and use t-test; the count data such as the incidence of complications and mortality are expressed by the frequency and rate, and use chi-square test. The results show that there is a significant difference.

## 3. Results

### 3.1 General information

The general information of the two groups of patients is shown (Table 1). HIV group: age 19–39, average age ( $29.85 \pm 5.489$ ); menopause for 7–13 weeks, average menopause ( $7.74 \pm 1.620$ ) weeks, 34 cases of HIV infection. Normal group: 18–41 years old, with an average age of ( $27.99 \pm 5.186$ ); menopause for 7–13 weeks, with an average menopause of ( $7.30 \pm 1.264$ ) weeks; Over the 34 HIV-induced abortions, 26 had no occupation (76.47%); 17 had a university degree (50.00%); 20 had are locals (70.59%); 16 (47.06%) had childbirth experience; 14 cases (41.18%) chose contraceptive tools and safe period contraception, while 5 cases (14.71%) did not take contraceptive measures. All 527 cases successfully completed the

artificial abortion under the guidance of abdominal B-ultrasound. There was no artificial abortion syndrome, blood-borne cross-infection and occupational exposure infection of medical staff.

Table 1  
34 cases of HIV infection investigation of the basic situation of the study (n = 34)

Project	Category	Number of cases (n,%)	Project	Category	Number of cases (n,%)
Marriage	Married	20 (58.82)	Childbirth	Cesarean section/self-birth	16 (47.06)
	unmarried	14 (41.18)		Unborn	18 (52.94)
Profession	Unemployed	26 (76.47)	Childbirth Within 2 years	Yes	9 (52.25)
	Staff	7 (20.58)		No	7 (43.75)
	Student	1 (2.95)	Contraceptive measures	Tool contraception	14 (41.18)
Education	Junior high school and below	2 (5.88)		Safe period contraception	14 (41.18)
	High school	5 (14.71)		Drug contraception	1 (2.93)
	Junior college	10 (29.41)		Not contraceptive	5 (14.71)
	University and above	17 (50.00)	Medicine	Mifemiso	14 (41.18)
Territory	local	24 (70.59)		Unused drugs	20 (58.82)
	OtherPlaces	10 (29.41)			

### 3.2 Analysis of the characteristics

There was no statistical difference between the two groups in marriage, occupation, education, childbirth history, and contraceptive history(). There is a statistical difference between territories P = 0.013 (Table 2).

Table 2  
Comparison of the basic characteristics of the two groups of childbearing age

Project	Category	HIV Group (n)	Normal group(n)	$\chi^2/t$	<i>P</i>
Age		29.85 ± 5.489	27.99 ± 5.186	28.928	0.364
Gestational week		7.74 ± 1.620	7.30 ± 1.264	14.491	0.070
Territory	Locals	24	425	6.152	0.013
	Other Places	10	68		
Marriage	married	20	298	6.752	0.069
	unmarried	14	145		
Profession	Yes	8	278	7.278	0.07
	No	26	215		
Contraceptive method	Tool	14	277	4.362	0.225
	Safety period	14	126		
	Drug	1	21		
	Not contraceptive	5	68		
Medication	Yes	14	228	5.271	0.065
	No	20	265		
Within 2 years of childbirth	Yes	9	102	0.639	0.424
	No	25	391		

## 4 Discussion

### 4.1 Analysis of demographic characteristics of HIV-infected population during induced abortion

Among 34 cases of HIV-induced abortion, 26 cases were unemployed (76.47%), and 1 case was a student; 17 cases had a university degree (50.00%); 20 cases are locals (70.59%). This conclusion shows that the majority of the population is distributed among young women who are local, have no fixed occupations and high education. This third-Grade A-level infectious disease hospital selected in this study is one of the largest infectious disease hospitals in China. The source is mostly from all patients in Beijing and other places, and they are representative. The results of the study showed that the

characteristics of unmarried, education of college degree or above as the main risk factors in HIV-positive patients are consistent with the overall HIV infection prevalence (Du Xiaoying,et al., 2015).There is one student in this study. At present, college students'sexual attitudes and behaviors are becoming more and more open. Correspondingly, the knowledge of sexually transmitted diseases and the awareness of safe sex are relatively scarce (Gao Jianming,et al., 2017).The majority of HIV-infected persons are still young adults, but the risk groups are diversified, the number of teenager infected is increasing, and the number of HIV-infected persons in the floating population is also increasing.

Over the 34 HIV cases undergoing abortion, 16 cases (47.06%) had childbirth experience, of which 9 cases (52.25%) underwent abortion within 2 years of childbirth;and 14 cases (41.18%) who chose tool contraception and safe period contraception, while 5 cases (14.71%) did not take contraceptive measures.Data show that insisting on using condoms for every sexual act can reduce the risk of AIDS infection by approximately 80%-90% (Francis, S. C. ,et al., 2020).According to foreign statistics, the failure rate of using safe period contraception is 14%-47%. The vaginal secretions of HIV-infected persons contain a certain concentration of HIV virus. The higher the frequency of unprotected sex, the greater the chance of exposure and the greater the possibility of HIV infection. Therefore, safe period contraception is not suitable for HIV-infected persons.In addition, artificial abortion will have certain adverse effects on women's physical and mental health. In particular, re-abortion within 2 years after delivery will cause greater trauma to women's endometrium and may cause irreversible damages on women's fertility (Xu Xia. ,et al., 2015).How to protect HIV-infected women with unplanned pregnancy is a problem worthy of discussion (Shan Duo.,et al., 2015)

#### **4.2 The necessity of analyze the related characteristics of induced abortion in HIV-infected people**

There was no statistical difference in marriage, occupation, education, high-risk factors, birth history, contraceptive history, etc. between HIV-infected patients and normal patients who underwent induced abortion, indicate that patients' awareness of family planning services has nothing to do with whether they have HIV.At present, people generally lack a correct understanding of reproductive health knowledge. To provide family planning services for HIV-infected people, it is necessary to formulate relevant policies based on their physical and mental characteristics.In addition, there are significant differences between the two groups of patients in their territories. However, the research scope of this study is only for a certain tertiary hospital, and does not involve a wider area, which may cause territorial errors, leading to statistical significance of P values,But it also provides ideas for the next step of research, needs to expand the scope of investigation and reduce errors caused by territoriality.

## **5 Suggestion**

Since the 1890s, PAC has always been the focus of in solving abortion problems internationally (Tripney J.,et al., 2013). PAC, as a standardized abortion service process, includes medical services for abortion complications, Post-abortion family planning services, post-abortion consultation services, post-abortion community services, and post-abortion reproductive health comprehensive services. By establishing a standardized nursing service model, actively promote contraceptive knowledge to women of childbearing

age, fully implement contraceptive measures, reduce the proportion of repeated abortions, and ensure women's reproductive health and quality of life (Zhang Yuxia.,et al., 2014). PAC in China is currently in its infancy, and PAC for HIV-infected people has not yet been formulated. Therefore, we propose the following innovative suggestions based on the data of this research and the existing PAC model.

### **5.1 Establish a professional volunteer service team**

Due to the high proportion of unintentional pregnancies among female HIV-infected people, social discrimination against this group is quite common, which makes this part of women may have abnormal mental states, and they may not seek medical treatment in time. Therefore, medical staff should form a volunteer service team, set up health lecture halls for HIV-induced abortion patients, hire professionals to give lectures, and set up the venue in a single ward to protect the privacy of patients. Our hospital and the Red Ribbon Home of Beijing Ditan Hospital (Business scope: establish a database for the patients who go to the clinic, and follow up regularly; provide telephone consultation for the infected, provide patients with psychological counseling, peer education, hospice care, etc.). Established a voluntary service cooperation relationship, and established the follow-up intervention work after the abortion (3, 6, 12 months after the abortion) in the Red Ribbon Home, let patients to accept a series of health education knowledge after abortion with a good attitude and in an environment that feels relatively safe and familiar.

### **5.2 Provide one-to-one consulting services in a time**

PAC service adopts one-to-one consultation services and collective education to popularize reproductive health knowledge to patients. By the psychological care, the tension and fear of the patients can be relieved in time, which has an important and positive effect on protecting women's physical and mental health. In addition, PAC services can also help reduce the psychological impact of abortion surgery, help them stabilize their emotions, and improve their quality of life after surgery. Therefore, medical staff must pay attention to the importance of PAC, create a special PAC official account for HIV patients undergoing abortion surgery, set up staff on duty, and answer patients' questions in a time, use WeChat to provide one-to-one targeted guidance to patients and partners, so that patients can recognize the hazards of miscarriage, and initiatively take safe and effective contraceptive measures under the guidance of medical staff.

### **5.3 Give patients material and psychological support**

By applying for scientific research projects, a platform has been established for exploring the improvement of the PAC model of HIV-infected people, perfect a series of guidelines, procedures and systems related to PAC services and to provide better-quality contraceptives for HIV-infected people. A survey found about the psychological impact of unwanted pregnancy on women, 55.3% on depression, anxiety and fear accounted, HIV-infected people have greater psychological pressure (Family planning service guidelines after induced abortion., 2011). At this stage, humanistic care and nursing services have gradually become one of the important contents of nursing interventions for HIV people. The psychological comfort provided by the clinical medical team can effectively reduce their fear, depression, anxiety and

other negative emotions, improve their quality of life, and e e their social support status (Li Huan,et al., 2012). "China AIDS diagnosis and treatment guidelines (2018 edition)" pointed out: follow the principle of privacy and confidentiality, strengthen the follow-up of HIV patients, and provide necessary medical and psychological consultation ( Guidelines for the Diagnosis and Treatment of AIDS in China (2018 Edition)).Therefore, providing psychological counseling is also a key process of PAC.Let HIV-infected people have a understanding of reproductive health and contraceptive knowledge, to accept post-abortion family planning services, and reduce the rate of unintended pregnancy and re-abortion as much as possible.Currently, HIV-infected people undergoing artificial abortion are in urgent need of effective intervention.In order to protect the physical and mental health of this group, hospitals, governments, health care institutions and other relevant departments must strengthen corporately, and carry out early screening and early intervention for pre-marital health care, pre-pregnancy health care, and maternal health care (Wu Weilin.,et al., 2014). Through the volunteer service team with Red Ribbon, a safe and comfortable PAC service environment is created to ensure the effective development of PAC services and carry out one-to-one health education after abortion.At the same time, the original PAC service should be continuously optimized. Perioperative mental health evaluation of HIV population undergoing induced abortion is also the focus of further research.

## **Declarations**

### **Ethics approval and consent to participate**

Written informed consent was waived by an Ethics Committee of Beijing Ditan Hospital affiliated to Capital Medical University.

The study protocols were approved by an Ethics Committee of Beijing Ditan Hospital affiliated to Capital Medical University.

All methods were carried out in accordance with relevant guidelines and regulations.

### **Consent for publication**

Not applicable.

### **Availability of data and materials**

The data comes from the patient data of the author's hospital. It involves patient privacy and does not want to share their data.

Corresponding author should be contacted if someone wants to request the data from this study.

### **Competing interests**

The authors declare that they have no competing interests.

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## Author Contributions

Substantially contributed to conception or design: Jing Li, Yanhua Zhang

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Gave final approval: All authors

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