



# Analysis on the Value of Targeted Nursing in Preventing the Incidence of Needle Phobia During Venous Blood Collection in Health Examination Subjects

Meilong Shi, Hongmei Zhou, Chunyan Huang, Lingting Liao\*

Hechi People's Hospital, Hechi 547000, Guangxi, China.

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\***Corresponding author:** Lingting Liao, Hechi People's Hospital, Hechi 547000, Guangxi, China.

## Abstract

**Objective:** To explore the application value of targeted nursing care in preventing the incidence of needle syncope in venous blood collection of health examinees.

**Methods:** A total of 120 patients who underwent physical examination in our hospital from January to December 2021 were selected as the study subjects. They were randomly divided into control group (60 patients, with routine nursing) and observation group (60 patients, with targeted nursing); Compare the compliance of blood collection, incidence of needle sickness and nursing satisfaction between the two groups. **Results:** The compliance rate and nursing satisfaction score of the patients in the observation group were higher than those in the control group, while the incidence of needle sickness in the observation group was lower than that in the control group ( $P < 0.05$ ). **Conclusion:** In the process of venous blood collection for health examiners, targeted nursing intervention for the examiners has a significant effect, which can improve the compliance of the examiners with blood collection, reduce the incidence of blood collection syncope, and the patients' nursing satisfaction is high, which has high application value.

## Keywords

Targeted nursing; Physical examination; Intravenous blood collection; Dizziness

Venous blood sampling is an important item in health check-up, and venous blood sampling is also an important operation skill in nursing operations [1]. Since venous blood sampling projects require blood sampling in an empty stomach in most cases, and the blood sampling operation is basically completed in the morning, it is very easy to cause a series of adverse reactions when the examinee is in an empty stomach, which affects the smooth completion of the blood collection operation. Blood phobia and needle phobia are the most common adverse reactions in venous blood sampling. The causes of blood phobia and needle phobia may be related to the examinee's own physical constitution and psychological emotions. The examinee with severe blood phobia and needle phobia may even have symptoms such as nausea, sweating and dizziness, which affect the smooth implementation and completion of venous blood collection [2, 3]. Therefore, when implementing venous blood sampling, it is necessary to implement corresponding nursing intervention measures for the examinee to prevent and reduce the incidence of needle phobia in the examinee, which is conducive to the smooth completion of venous blood collection. In view of this, this article will explore and analyze the application value of targeted nursing in preventing the incidence of needle phobia in health examinees. See below for details.

## 1. Materials and methods

### 1.1 General information

A total of 120 healthy subjects who underwent health examinations in our hospital from January to December 2021 were selected as the research subjects and randomly divided into a control group and an observation group, with 60 cases in each group. In the control group, there were 32 males and 28 females, aged 20-52 ( $38.46 \pm 4.25$ ) years old. In the observation group, there were 31 males and 29 females, aged 20-55 ( $39.02 \pm 4.86$ ) years old. There was no significant difference in the basic data of the two groups of healthy subjects ( $P > 0.05$ ), and the comparison between the two groups could be performed.

### 1.2 Methods

The control group received routine nursing intervention, which included reminding the examinees to ensure good sleep quality and eat a proper diet before the physical examination, and to avoid drinking alcohol and taking medicine before the physical examination; at the same time, warm water and glucose were prepared for the examinees before blood collection; and the patients were guided to cooperate in completing the blood collection.

The observation group adopted targeted nursing intervention, and the specific measures were as follows: (1) Environmental intervention: By keeping the blood collection environment clean and tidy and adjusting the ambient temperature appropriately, a high-quality blood collection environment was provided for the examinees, which was conducive to the examinees' mood. In addition, when there were many examinees, appropriate comfort measures could be given to the examinees to avoid emotional agitation. (2) Health education: Before the examinees were given blood, the nurses could implement health education intervention for the patients. The nurses could popularize the relevant precautions for blood collection to the examinees, and inform the examinees that after completing the blood collection, they should avoid strenuous exercise, maintain good work and rest habits, and pay attention to scientific and reasonable diet to ensure adequate nutrient intake. Improving the self-care awareness of the patients was conducive to improving their compliance. (3) Psychological intervention: When the examinees were giving blood, their psychological state would affect the incidence of needle phobia during blood collection. Therefore, it was necessary to take appropriate psychological nursing intervention for the examinees to help them maintain a good attitude. The nurses could communicate with the examinees more and divert their attention, thereby reducing the incidence of needle phobia. (4) Pain nursing intervention: In terms of blood collection, blood collection staff need to improve their own operation level, reduce the incidence of error operation during blood collection, increase the success rate of one-time puncture, and promote the reduction of pain of the examinee. At the same time, during the blood collection process, it is necessary to strengthen the prevention of dizziness and sweating in the examinee. Nursing staff can remind the examinee to keep a steady breathing state and keep the whole body relaxed during blood collection. At the same time, they can instruct the examinee not to stare at the blood collection process during blood collection, and can tilt their head to one side, which effectively reduces the incidence of needle phobia in the examinee. (5) Adverse reaction prevention intervention: During the blood collection process, it is necessary to pay close attention to the changes of the examinee. Once the examinee is found to have blood phobia, the blood collection operation needs to be stopped immediately, and the examinee should be guided and assisted to take a supine position, and warm boiled water or glucose water should be given to the examinee to help the examinee recover from blood phobia. In addition, during the blood collection period, attention should be paid to the examinee's emotional changes, and encouragement and comfort measures should be given to the examinee in a timely manner, so as to effectively help the examinee maintain a good mentality and avoid excessive behavior. (5) After completing the blood collection operation, quickly remove the needle and instruct the examinee to press on the puncture point to stop the bleeding. At the same time, verbal encouragement and comfort are needed to relieve the examinee's negative emotions. The examinee should also be informed of the precautions after blood collection to calm the examinee's emotions and maintain a good mental state.

### 1.3 Observation indicators

- ① Observe and record the number of cases of needle phobia in the two groups, and compare the incidence rates.
- ② Compare the compliance of the two groups with blood collection: full compliance (the physical examination personnel completed the blood collection operation), partial compliance (the physical examination personnel

complied with part of the blood collection operation), and non-compliance (the physical examination personnel did not cooperate with the blood collection operation at all).

③ The nursing satisfaction of the two groups of examinees was evaluated by scoring, mainly evaluating the operation level, health education, comfort level, pain impact, and environmental care. The total score of a single item was set at 20 points. The higher the score, the higher the nursing satisfaction.

#### 1.4 Statistical methods

SPSS25.0 was used to analyze the statistical data. The counting data were expressed as  $\chi^2$  (%) and the measurement data were expressed as  $t(\bar{x} \pm s)$ . The test results showed that  $P < 0.05$  was statistically significant.

## 2. Results

### 2.1 Comparison of compliance and incidence of needle phobia

After comparison, the compliance of the subjects in the observation group was higher than that in the control group, while the incidence of needle phobia was lower than that in the control group ( $P < 0.05$ ). See Table 1.

**Table 1. Comparison of blood sampling compliance and needle phobia incidence between the two groups of examinees [n(%)]**

Group	Full compliance	Partial compliance	Non-compliance	Overall compliance rate	The incidence of needle sickness
Control group (n = 60)	34 (56.67)	20 (33.33)	6 (10.00)	54 (90.00)	11 (18.33)
Observation group (n = 60)	44 (73.33)	15 (25.00)	1 (1.67)	59 (98.33)	2 (3.33)
$\chi^2$	--	--	--	4.650	6.135
$P$	--	--	--	0.031	0.013

### 2.2 Comparison of nursing satisfaction

Comparison of inter-group data showed that the nursing satisfaction (operation level, health education, comfort level, pain impact, and environmental care) scores of the subjects in the observation group were significantly higher than those in the control group ( $P < 0.05$ ). See Table 2.

**Table 2. Comparison of nursing satisfaction between the two groups of examinees ( $\bar{x} \pm s$ , points)**

Group	Operation level	Health Education	Comfort level	Pain effects	Environmental care
Control group (n = 60)	15.76±1.35	14.24±1.21	14.36±1.34	13.12±1.21	17.25±1.46
Observation group (n = 60)	19.12±1.36	18.97±1.42	19.17±1.36	18.64±1.52	19.08±1.63
$t$	13.582	19.639	19.515	22.008	6.478
$P$	0.000	0.000	0.000	0.000	0.000

## 3. Discussion

With the rapid development of social economy, people's health awareness has gradually improved, and the number of people undergoing daily health examinations has gradually increased. Venous blood sampling is an important examination item for health examinations, and it is also an effective reference for diagnosing diseases in clinical practice.

However, venous blood sampling will cause a certain degree of discomfort, and venous blood sampling is mostly performed in the morning, and in most cases, blood sampling requires fasting. The examinee is prone to negative psychological emotions due to the fasting state, and many people are prone to negative emotions such as tension, anxiety, and even fear when facing the blood sampling operation, which will not only increase the incidence of needle

sickness, but also may affect the smooth completion of the blood sampling operation [4, 5]. The occurrence of needle sickness during venous blood sampling is due to the influence of multiple factors, which causes the sympathetic vagus nerve to be in an excited state, dilates peripheral blood vessels, reduces myocardial contractility, and causes transient cerebral ischemia, thereby causing syncope symptoms. The occurrence of needle sickness during blood sampling is relatively rapid, and the causes are relatively complex. In order to effectively reduce the incidence of needle sickness in examinees, corresponding nursing intervention measures can be implemented for the examinees during the blood sampling process [6].

In this study, during the venous blood collection process of healthy physical examination personnel, targeted nursing intervention was implemented for the physical examination personnel. The results of the study showed that the compliance and satisfaction scores of the observation group were higher than those of the control group, while the incidence of needle fainting was lower. Compared with the control group ( $P < 0.05$ ); it indicates that the application of targeted nursing has a significant effect, which can reduce the incidence of venous blood collection and help the blood collection operation to be completed smoothly. Targeted nursing carries out nursing intervention from many aspects. By implementing psychological intervention on the physical examination subjects, it is helpful to help the physical examination subjects maintain a good psychological state and actively cooperate with the blood collection operation; providing health education care and informing the physical examination subjects of precautions before and after blood collection is conducive to improving the physical examination Patients' awareness of self-care; environmental intervention mainly provides a clean and comfortable blood collection environment for physical examination patients, which is conducive to improving the good psychological state of physical examination patients [7, 8]. Carrying out multi-faceted nursing intervention will help physical examination patients maintain a good attitude, actively cooperate with blood collection operations, and help reduce the incidence of needle fainting during blood collection.

In summary, the use of targeted nursing care in venous blood collection operations for healthy subjects can significantly improve the subjects' compliance with blood collection, reduce the incidence of needle sickness during blood collection, and improve the subjects' satisfaction with nursing, which has a high application value.

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