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# Effect of Psychological Nursing Intervention on Child Patients Who Received Circumcision

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**Abstract:** Objective: To assess effect of psychological nursing intervention on child patients who received circumcision. Methods: We collected 112 valid data from child patients (younger than 14 years old), the patients who received circumcision from April 2017 to October 2020. Base on the type of nursing intervention patients receive, the patients were assigned to two groups: Control group participants (n = 62) received common nursing intervention before circumcision, and intervention group participants (n = 50) received psychological nursing intervention before circumcision. After circumcision, we collected the data from medical records and questionnaire, the questionnaires included Self-Rating Anxiety Scale (SAS), Self-rating depression scale (SDS) and satisfaction assessment questionnaire. Result: By comparing control group and intervention group, the patient characteristics were no significantly different in this study, including age, patient number who undergoing postoperative complications, operation time and anesthesia method ( $p > 0.05$ ). Compared with control group participants, intervention group participants had better outcome in anxiety assessment and depression assessment, and their results were significantly different after carry out nursing intervention ( $p < 0.05$ ). Compared with the participants who received common nursing and their family, the participants who received psychological nursing intervention and their family had higher satisfaction rate after circumcision (67.13% vs 92.54% and 65.34% vs 95.15%). Conclusion: psychological nursing intervention improve mental health of child patients who received circumcision, that it had better effect compare with common nursing intervention.

**Keywords:** Circumcision, Nursing Intervention, Mental Health

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## 1. Introduction

Circumcision seems to be one of the oldest surgical procedures, and it has been practiced since ancient times [1]. Circumcision is a common procedure performed in outpatient department [2]. Base on some reports, complications rates of circumcision range between 0.2 and 6.8% [3, 4]. In addition, the patient's mental health is also one of the important influencing factors of the operation [5, 6]. However, child patients often had poor mental health before circumcision as they don't know about circumcision and fear the pain that is coming [5, 6]. Poor mental health also affected surgery outcome of patients, especially in child patients [7]. According to the reports, most mental problems of child patient were cased before circumcision, including anxiety, depression and fear [8, 9]. Therefore, mental health of child patient should be improved before

circumcision.

Several studies compare improvement methods of mental health with varying results [10-12]. Their studies had limited statistical analysis, and they lack direct and effective measures for children with the disease [13, 14]. For example, the report indicated that sweets can effectively improve the mental health of patients [5]. However, this intervention may affect the outcome of some procedures and may not be appropriate for child patients undergoing circumcision. Therefore, effect of psychological nursing on child patients undergoing circumcision is worth studying.

The aim of this study was to assess effect of psychological nursing on child patients undergoing circumcision. The primary outcome of this study was to compare anxiety assessment, depression assessment and satisfaction of patients. Our goal was to explore more effective nursing intervention than other intervention.

## 2. Methods

### 2.1. Participants Enrollment and Survey Methods

This horizontal comparative study investigated two groups: control group and intervention group, that the participants were invited from outpatient department of hospital. Both groups were assessed during treatment. We collected 120 data from child patients (younger than 14 years old), the patients who received circumcision from April 2017 to October 2020. However, 8 patients lack necessary information, so we only collected 112 valid data from child patients undergoing circumcision. Base on the type of nursing intervention patients receive, the patients were assigned to two groups: Control group participants (n = 62) received common nursing intervention before circumcision, and intervention group participants (n = 50) received psychological nursing intervention before circumcision. All participants from the same period of the patients received circumcision. After circumcision, we collected the data from medical records and questionnaire, the questionnaires included Self-Rating Anxiety Scale (SAS), Self-rating depression scale (SDS) and satisfaction assessment questionnaire [15, 16].

The psychological nursing intervention is order to improve mental health of child patients who going to receive circumcision. Its measures include: (1) Nurses take the initiative to communicate with child patients; (2) Nurses provided related knowledge to patients and their families; (3) The nurses encouraged the child patients; (4) Nurses provide

comfortable operating room environment to child patients.

The inclusion criteria for both groups were the following: (1) Patient's age was younger than 14 years old; (2) The patient was accompanied by family members; (3) They going to received circumcision. The withdraw criteria for both groups were the following: (1) The patient developed severe complications after surgery; (2) The patient had no mental disorders.

### 2.2. Statistical Analysis

The continuous variables accord with normal distribution were described by the means with standard deviation (SD). The chi-squared test was applied to compare the categorical variables. Results were considered statistically significant using an alpha level of 0.05. All statistical analyses were performed using SPSS, Version 22.0

## 3. Result

We collected the data from 112 child patients who received circumcision. By comparing control group and intervention group, the patient characteristics were no significantly different in this study, including age, patient number who undergoing postoperative complications, operation time and anesthesia method ( $p > 0.05$ ). Therefore, characteristic factors of patient did not cause deviation to the results of the study (Table 1).

Table 1. Patient characteristic.

	Age (year) (mean±SD)	Patient who undergoing postoperative complications [n (%)]	Operation time (min) (mean±SD)	anesthesia method (local anesthesia) [n (%)]
Control group (n = 62)	10.46±2.75	7 (11.3%)	19.15±4.56	62 (100.0%)
Intervention group (n = 50)	10.31±2.66	5 (10.0%)	20.62±5.13	50 (100.0%)
t/X <sup>2</sup>	0.241	0.181	0.162	0.288
P value	< 0.05	< 0.05	< 0.05	< 0.05

To assess mental health of patient, we use SAS and SDS to collect anxiety assessment and depression assessment of patient before and after carry out nursing intervention. Before carry out nursing intervention, the anxiety assessment and depression assessment were no significantly different between

two groups ( $p > 0.05$ ). But their results were significantly different after carry out nursing intervention ( $p < 0.05$ ). Compared with control group participants, intervention group participants had better outcome in anxiety assessment and depression assessment, as shown in Table 2.

Table 2. The score of anxiety and depression from SDS and SAS (Mean ± SD).

Item	SAS		SDS	
	BN	AN	BN	AN
Control Group (n = 62)	64.37±5.36	52.34±11.34	61.42±8.28	49.75±9.43
Intervention Group (n = 50)	64.42±8.03	41.51±8.72	63.15±6.17	39.25±7.21
t	0.034	7.862	0.146	14.791
P Value	> 0.05	< 0.05	> 0.05	< 0.005

Before nursing intervention = BN

After nursing intervention = AN

We collected satisfaction assessment from patients and their family after circumcision. Compared with the participants who received common nursing and their family, the

participants who received psychological nursing intervention and their family had higher satisfaction rate after circumcision (67.13% vs 92.54% and 65.34% vs 95.15%), and their satisfaction rates were significantly different between two groups, as shown in Table 3.

*Table 3. Satisfaction assessment from patients and their family (%).*

	satisfaction rate of patient	satisfaction rate of patient family
Control group (n = 62)	67.13%	65.34%
Intervention group (n = 50)	92.54%	95.15%
t	13.872	15.901
P value	< 0.005	< 0.005

## 4. Discussion

The two main results of our study can be summarized as follows. First, participants who received psychological nursing intervention was better in outcome of anxiety assessment and depression assessment than in the participants who received common nursing intervention. Finally, satisfaction rate of patient and their family was higher in intervention group than in control group after circumcision.

Psychological nursing intervention has an auxiliary effect on the psychology of patients. The improvement effect of psychological nursing intervention on patients is the main factor supporting our results in terms of anxiety and depression of patient and satisfaction of patient and their family. First, providing relevant medical knowledge reduce the patient's fear and improve the patient's family support for medical work, this measure provides effective help to pacify patients [17]. Second, comfortable medical environment improves the recognition and compliance of patients and their families to the hospital [18].

Ludwin et al. [19] compared the psychological nursing intervention with common nursing intervention in 192 patients for surgery. They found that psychological nursing intervention provided better effect to patients compare with common nursing intervention. The result in their study is similar for that in our study. In our study, even psychological nursing intervention improved satisfaction assessment from patients and their family

In limitation, our subjects were child patients who received circumcision, so it is not known whether our results are application to other disease or patients with other age or patients with other treatment. Also, because we examined only 112 patients, the result of this study may have been due to chance. The results must be confirmed in a large study.

In conclusion, psychological nursing intervention improve mental health of child patients who received circumcision, that it had better effect compare with common nursing intervention. psychological nursing intervention reduce the patient's fear and improve the patient's family support for medical work by providing relevant medical knowledge. Also, it also improves the recognition and compliance of patients and their families to the hospital by providing comfortable medical environment.

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