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The Observation of the Curative Effects of Nursing Intervention on the Premature Infant with Jaundice

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ABSTRACT **Objective**: To analyze the clinical effect of comprehensive nursing intervention on preterm infant with jaundice. **Methods**: During the treatment in our hospital as the research purpose from January 2004 to January 2014, 94 cases of premature infants were randomly divided into two groups which is control group and observation group. For control group patients, they were given routine nursing while the observation group patients were given comprehensive nursing intervention. These two groups of patients were analyzed with serum bilirubin concentration respectively, the comparison between patient weight and the time of fetal turn yellow and the occurrence of the disease. **Results**: Compared to control group, the serum bilirubin concentration in the observation group was significantly decreased, weight and meconium turned yellow time increased significantly, the incidence of complications such as apnea, abdominal distension and feeding intolerance was significantly lower and the differences were statistically significant ($p < 0.05$). **Conclusion**: Comprehensive nursing intervention can effectively improve the growth and development of premature infants and recovery, reduce the incidence of adverse reactions, has a significant clinical effect and it is worth promoting.

KEYWORDS
Premature infants
Jaundice
Conventional nursing
Comprehensive nursing care
Clinical effect

1. Introduction

In this study, 47 cases of 94 cases premature infants in our hospital from January 2004 to January 2014 were treated with comprehensive nursing intervention, with satisfactory clinical results, and summarized as follows.

2. The Methods and Clinical Data

2.1. Data

From January 2004 to January 2014, 94 cases of premature infants treated in our hospital were studied, including 50 males and 44 females, with average age of 33.52 + 3.51 weeks, weight 1000–2900 g, average (2346 + 134.62) g; the difference was not statistically significant ($p > 0.05$).

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2.2. Methods

The control groups were given routine nursing and medical staff administered luminal drug dosage from 5 to 8 mg/kg, to the children from birth to the seventh days after birth. The purpose is to stimulate the patient's active liver enzymes. In addition to this, the "*Mummy Love*" medicine was used with dosage of a bag per day. They should also be given vitamin B supplements.

Patients in the observation group were given comprehensive nursing intervention on the basis of the control group. Following is a several aspects that were carried out:

Hydrotherapy nursing interventions were administered to the children. The staff who administered the children should have practical basis or knowledge of children with this kind of disease. Choose 6F disposable suction tube or 8F suction tube and slowly insert in the children anus and decimating 20 mL physiological saline to be injected into the suction tube. Temperature should be guaranteed at 37 to 40 °C, while the measurement should be between 15 to 20 mL. The specific measurement should be based on the actual body mass and the pregnancy weeks of the children to decide which of the use of suction tube will be affected with the body of the children with normal saline. In the process, it has to be repeated 2 to 3 times, while the

total use of the normal saline should be guaranteed to be between 40 to 50 mL. At the time the best guarantee of hydrotherapy in the morning stage a day, according to the actual situation decided to take the number of meconium extraction.

Second intervention is called touch nursing intervention. Touch intervention is set for 9 am and 15 pm, two time periods. At each time, the basic method is massaging for about 5 minutes. The massage method has been commonly used internationally. This process is mainly carried out in the warm box or on the radiation table.

The third intervention is to carry out the non- nutritional absorption of children for child care intervention. This is where the children were given milk with a sucking nipple hole before eating; on time to ensure in about 10 minutes at a time, and the sucking nursing intervention is a course treatment of 10 days. The infants were fed with a slight amount of breast milk a day after the nursing intervention.

The last intervention is to carry out nursing intervention on children with prone position, which are during the children's actual feeding it should be ensured that the children are in a prone position and supine comfort. The nursing intervention was 4 times a day for 25 to 30 minutes.

2.3. Statistical analysis

The data obtained in this study were statistically processed using SPSS 18.0 software analysis, which count data using x^2 test and measurement data were compared using t test, $p < 0.05$ for statistically significant.

3. Results

3.1. Comparison of serum bilirubin concentrations in two patients with Groups

As shown in Table 1, serum bilirubin concentrations in the 47 groups were analyzed and compared with the control group (321.42 + 21.46) μmol/L, 47 (15.78) μmol/L, and (24.53 + 11.56) μmol/L. After the treatment, the difference was statistically significant ($p > 0.05$), and the difference was statistically significant ($p < 0.05$).

Table 1. Comparative analysis of serum bilirubin concentrations in two groups of patients.

Group	The number of cases	Before treatment (μmol/L)	After treatment (μmol/L)
Observation group	47	319.67 ± 24.53	114.24 ± 11.56
Control group	47	321.42 ± 21.46	153.62 ± 15.78

3.2. The comparison of two groups of patients with body weight and fetal turn to yellow time

As shown in Table 2, two patients with weight and pregnancy were analyzed. The control group had 47 patients (3.15 ± 0.25) kg, and the fetal turn yellow time was (29.54 ± 4.67) h; The statistical analysis showed that the body weight was significantly higher in the observation group than in the control group. The difference was statistically significant ($p < 0.05$).

Table 2. A comparative analysis of two groups of patients with body weight and fetal turn yellow time.

Group	The number of cases	Weight (kg)	The fetus will turn yellow (h)
Observation group	47	3.57 ± 0.48	79.26 ± 11.53
Control group	47	3.15 ± 0.25	29.54 ± 4.67

3.3. The incidence of complications in the two groups was compared

As shown in Table 3, analysis of the number of complications in the two groups, the control group of 47 patients, 17.02% cases of apnea, 11 cases of abdominal distension, accounting for 23.41%, feeding intolerance in 7 cases, accounting for 14.89%, feeding intolerance in 47 cases, accounting for 6.38%, 3 cases, 8.51% cases, 4 cases of abdominal distension, accounting for 4.26%; compared with the control group, the number of complications such as apnea, abdominal distension and feeding intolerance was significantly lower in the observation group rather than in the control group. The difference was statistically significant ($p < 0.05$).

Table 3. A comparative analysis of the incidence of complications in the two groups of patients.

Group	The number of cases	Apnea	Abdominal distention	Feeding intolerance
Observation group	47	3 (6.38%)	4 (8.51%)	2 (4.26%)
Control group	47	8 (17.02%)	11 (23.41%)	7 (14.89%)

4. Discussion

Premature jaundice is a common clinical disease, mainly due to premature liver development which leads to the accumulation of bilirubin. Consequently, it leads to damage in the central nervous system and organs, which cause serious threat to children's quality of life [1-3].

It is very important to give a timely nursing intervention for premature infants with jaundice. Relevant diagnostic criteria has been developed in China for the premature infants, which is if there is a symptom of jaundice in 24 hours after the premature infants' birth: the children's blood bilirubin exceeded 102.6 μmol/L and the serum bilirubin exceeded 220.6 μmol/L. In a previous study, Li [4] found that premature infants with jaundice are likely to lead to bilirubin brain complications, where the child's blood bilirubin is ranged from 102.6 μmol/L to 170 μmol/L. Li's findings [3] were further confirmed by Jia's research [4] as Jia believes that premature infants are not normal, and the liver is not in a perfect stage. Some children also showed nuclear jaundice which is red induced brain complication. This complication is due to large amount of bili-

rubin and the nerve cells play a greater role in the barrier function of the final result of brain damage. In this study, 94 cases of premature infants treated in our hospital were randomly divided into control group and observation group. The control group was treated with routine nursing. The patients with two groups were given comprehensive intervention. The serum bilirubin concentration, the body weight and the incidence of complications were analyzed in two groups. The results showed that the serum bilirubin concentrations in the observation group were significantly lower than those in the observation group which were significantly lower than those in the conventional nursing. The incidence of complications such as apnea, abdominal distension and feeding intolerance was statistically significant lower, and the difference was statistically significant. In the process of comprehensive nursing intervention that should mainly pay attention the following aspects: (1) Skin touching to stimulate their nervous system and improve development and growth of the sensory organ. The immunity of children and food intake were increased, so that the body weight increase to promote physical growth [4-6]. (2) Expose to sun because the ultraviolet of the sun can oxidize the heterogeneous bilirubin, thereby encourage the excretion of bilirubin in the premature jaundice [7-10].

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