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Study on the Construction and Initial Application of Home Skin Care Guidance Program for Neonates

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Abstract: *Objective*: To explore the construction and application value of a home skin care guidance program for neonates. *Methods*: From February 2024 to February 2025, 60 neonates were selected as samples and randomly grouped by drawing. Group A received the constructed home skin care program for neonates, while Group B received routine care. The mastery of skin care knowledge by parents, emotional scores of mothers, and adverse reaction rates of neonates were compared. *Results*: The mastery of skin care knowledge by parents in Group A was higher than that in Group B, $P < 0.05$. The anxiety (SAS) and depression (SDS) scores of mothers in Group A were lower than those in Group B, $P < 0.05$. The adverse reaction rate of neonates in Group A was lower than that in Group B, $P < 0.05$. *Conclusion:* The construction of a home skin care program for neonates can reduce adverse reactions of mothers, improve parents' mastery of neonatal skin care knowledge, and is beneficial for reducing adverse events such as neonatal eczema, diaper dermatitis, and infection.

Keywords: Neonatal care; Home skin care; Adverse reactions

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1. Introduction

Skin is an important tissue that reduces interference from external factors to the human body. However, as it directly contacts the external environment, the skin is susceptible to viruses and bacteria, especially for neonates who have immature organ functions and incomplete immune functions. Once there are abnormalities in skin barrier function, it can increase the risk of skin infections and skin damage. In addition, due to the abuse of antibiotics, the number of drug-resistant bacteria has increased, further increasing the risk of neonatal skin damage. Therefore, attention should be paid to neonatal skin management [1]. Routine neonatal skin care mainly focuses on basic interventions such as diaper changing, bathing, and touching, which lack evidence-based support. Moreover, routine care is often provided through oral education, resulting in poor mastery of neonatal care knowledge by parents and even affecting the quality of home care. In modern neonatal nursing services, using the WeChat platform as a carrier to construct a systematic and comprehensive skin care strategy can prevent and control skin problems and ensure the quality of home care [2]. Based on this, this article explores the value of home skin care for neonates using 60 neonates born from February 2024 to February 2025 as samples.

2. Materials and methods

2.1. Materials

Sixty neonates born from February 2024 to February 2025 are selected as samples and randomly grouped by drawing. There was no statistically significant difference in baseline data between Group A and Group B, $P > 0.05$, as shown in **Table 1**.

Table 1. Baseline data of neonates

Group	*n*	Gender (%)		Age (years)		Gestational age (weeks)		Feeding method (%)		
		Male	Female	Range	Mean ± SD	Range	Mean ± SD	Exclusive breast	Formula	Mixed
Group A	30	18 (60.00)	12 (40.00)	2.8–4.1	3.39 ± 0.21	36–40	38.44 ± 1.29	18 (60.00)	10 (33.33)	2 (6.67)
Group B	30	17 (56.67)	13 (43.33)*	2.7–4.2	3.41 ± 0.23	36–41	38.41 ± 1.31	16 (53.33)	11 (36.67)	3 (10.00)
X^2/t	-	0.0686		0.3517		0.0894		0.0911		
p	-	0.7934		0.7263		0.9291		0.8942		

2.2. Inclusion and exclusion criteria

2.2.1. Inclusion criteria

(1) Normal immune function

(2) Signed informed consent

(3) Parents cooperate with the physician

2.2.2. Exclusion criteria

(1) Cardiovascular disease

(2) Hepatic and renal dysfunction

(3) Delivery time > 1 week

2.3. Methods

2.3.1. Group A

(1) Establish a nursing team: The head nurse develops a neonatal nursing process, assigns neonatal nursing responsibilities to individuals, and regularly assesses and evaluates the team's mastery of neonatal skin care knowledge. Improve reward and punishment strategies to stimulate nurses' work enthusiasm. Regularly hold seminars to adjust nursing strategies based on the actual needs of patients, and encourage team members to search for relevant nursing literature on platforms such as CNKI and VIP, using keywords such as "neonatal skin care" and "home care" to summarize relevant nursing skills as a basis for constructing a neonatal home skin care plan.

(2) Discharge education: Before discharge, parents are required to follow the WeChat public account, join the WeChat group, and receive face-to-face discharge education. Regularly promote skin care knowledge in the WeChat group, and instruct the responsible nurse to remind parents to read it in a timely manner. Guide parents to ask questions about neonatal skin care in the group, and the responsible nurse will answer after reviewing professional materials.

(3) Implement home skin care strategies:

(a) Basic care: Create a quiet and comfortable environment for neonatal recuperation, adjust temperature and humidity based on neonatal needs. Regularly change bed sheets and bedding, assist in trimming neonatal nails to avoid skin infections caused by scratching.

(b) Reasonable selection of neonatal supplies: Avoid using nursing supplies containing ethanol, fragrances, essential oils, etc. Unless otherwise specified, use warm water to clean the skin to reduce adverse skin irritation. The PH value of neonatal cleansers and shower gels should be controlled at 5.5–6.0 to stabilize skin permeability, enhance hydration, and optimize skin barrier function. When cleaning the skin, choose baby-specific wet wipes. Reasonably select diapers based on neonatal weight to ensure proper tightness. Additionally, evaluate whether neonatal skin care products meet testing standards.

(c) Bathing care: Adjust the room temperature to 26–28℃ and water temperature to 37–40℃ before bathing, avoid air convection, and prepare towels, clothing, and shower gel. After bathing, disinfect toys and bathtubs with alcohol wet wipes, reduce porous toys to lower dirt accumulation. Additionally, dry the neonatal skin thoroughly after bathing, including folded positions such as behind the ears, neck, and armpits. For those with undetached umbilical cords, actively perform umbilical cord care.

(d) Prevention of diaper dermatitis: Adhere to breastfeeding, which contains various nutrients that can strengthen neonatal immune function and reduce the incidence of diaper dermatitis. Change diapers every 2 hours, increase diaper changing frequency for sensitive skin, and immediately replace diapers after defecation. Regularly clean the neonatal buttocks skin, preferably with baby wet wipes or warm water, and dry the skin surface moisture after completing buttocks care operations to avoid skin friction. Observe dry feces on the buttocks and gently wipe the area with a cotton ball dipped in vegetable oil to avoid forceful wiping and reduce skin damage. Maintain dryness and cleanliness of the buttocks skin, expose the buttocks skin 3 times a day for about 30 minutes each time, and pay attention to local warmth. Additionally, for some infants who have developed diaper dermatitis, apply barrier cream or diaper rash cream to prevent feces and urine from irritating the skin. Observe local skin exudate, clean the buttocks with a cotton ball and normal saline, and protect the buttocks with absorbable skin care powder.

(e) Prevention of eczema: Breastfeeding can also prevent eczema. Adjust the temperature of the neonatal room to 22–28℃. If the temperature is too high, it may cause skin dampness and increase the risk of eczema. Continuous irritation of feces, urine, and saliva to local skin can easily induce eczema, so skin cleansing should be done well.

(f) Cleaning neonatal clothing: It is recommended to choose soft cotton clothing and rinse multiple times during cleaning to reduce residual detergent. Additionally, neonatal clothing should be washed separately to avoid mixing with adult clothing.

2.3.2. Group B

Provide focused education before discharge, guiding parents on scientific prevention and treatment of neonatal skin problems, and informing them about breastfeeding methods, jaundice treatment, and vaccination-related precautions. After discharge, regularly follow up and answer parents' concerns.

2.4. Observation indicators

(1) Health knowledge: A self-made scale is used to evaluate the mastery of skin care knowledge among

newborn parents, including dimensions such as mastery (80–100 points), basic mastery (40–79 points), and no mastery (0–39 points).

(2) Maternal emotions: The Self-Rating Anxiety Scale (SAS) and Self-Rating Depression Scale (SDS) are used to evaluate maternal emotional fluctuations. The critical values are 50 and 53 points, respectively, and the scores are positively correlated with the degree of anxiety and depression in the mothers.

(3) Adverse reactions: Records of diaper dermatitis, eczema, and infections occurring in newborns are kept.

2.5. Statistical analysis

SPSS 23.0 is used to process the data of newborns. Percentage records and chi-square tests are used for counting indicators of newborns, while $\overline{X} \pm s$ records and t-tests are used for measurement indicators of newborns. Statistical significance is set at $P < 0.05$.

3. Results

3.1. Health knowledge

The mastery of skin care knowledge among parents in group A was higher than that in group B, with $P < 0.05$, as shown in **Table 2**.

Table 2. Comparison of mastery of skin care knowledge (%)

Group	Masteredn (%)	Basically masteredn (%)	Not Masteredn (%)	Mastery raten (%)
Group A (n=30)	19 (63.33)	10 (33.33)	1 (3.33)	29 (96.67)
Group B (n=30)	12 (40.00)	11 (36.67)	7 (23.33)	23 (76.67)
X^2	-	-	-	5.1923
p	-	-	-	0.0227

3.2. Emotional scores

After nursing, the SAS and SDS scores of mothers in group A were lower than those in group B, with $P < 0.05$. **Table 3** contains details for a comparison of maternal emotional scores.

Table 3. Comparison of emotional scores of pregnant women ($\overline{X} \pm s$)

Group	SAS (scores)		SDS (scores)	
	Before care	After care	Before care	After care
Group A (n=30)	55.69 ± 1.52	32.19 ± 1.02	56.19 ± 1.42	31.44 ± 1.11
Group B (n=30)	55.71 ± 1.49	45.21 ± 1.33	56.21 ± 1.39	46.25 ± 1.36
t	0.0515	42.5474	0.0551	46.2084
p	0.9591	0.0000	0.9562	0.0000

3.3. Adverse reactions

The rate of adverse reactions among newborns in group A was lower than that in group B, with $P < 0.05$, as shown in **Table 4**.

Table 4. Comparison of adverse reactions (n,%)

Group	Diaper dermatitis n (%)	Eczema n (%)	Infection n (%)	Incidence rate n (%)
Group A (n=30)	1 (3.33)	0 (0.00)	0 (0.00)	1 (3.33)
Group B (n=30)	3 (10.00)	2 (6.67)	1 (3.33)	6 (20.00)
X^2	-	-	-	4.0431
p	-	-	-	0.0444

4. Discussion

The organ functions of newborns are not fully developed, and their immune system function is relatively weak. Additionally, their skin structure is special, with issues such as less subcutaneous fat, more distributed blood vessels, and poor resistance [3]. Therefore, skin damage problems are prone to occur during home care. To ensure the safety of home care for newborns and reduce skin damage events, it is necessary to carry out efficient nursing care based on the characteristics of newborn skin [4]. Conventional nursing only provides routine education and oral guidance to parents on correct home care, which is difficult to meet the actual needs of newborns and prevent skin damage. Therefore, exploring new home care operations is extremely important [5]. After constructing a home skin care plan for newborns, emphasis is placed on cleaning and drying the newborn's skin, enabling parents to provide professional nursing services at home. This can reduce the frequency of frequent hospital visits and save time for hospital revisits, which is beneficial for preventing and controlling cross-infection events [6]. Furthermore, during correct home skin care, frequent contact between parents and newborns can enhance the emotional connection between mother and child.

Based on the data analysis presented in this article, Group A parents had a higher mastery of skin care knowledge compared to Group B, with $P < 0.05$. The reason for this difference is analyzed, and a home-based neonatal care guidance program is constructed to guide parents in selecting appropriate products for newborns, adjusting the temperature and humidity of the newborn's living space, and instructing parents on the correct prevention and control of diaper dermatitis and eczema in newborns. This program can enhance parents' awareness of newborn skin issues, enabling them to acquire more knowledge and skills in skin care. Therefore, parents in Group A demonstrated a higher mastery of skin care knowledge [7]. Another set of data indicates that the SAS and SDS scores of mothers in Group A were lower than those in Group B, with $P < 0.05$. The delicate skin of newborns can be damaged by allergens, feces, and urine, as well as repeated cleaning and friction, increasing the risk of diaper dermatitis and causing excessive anxiety for mothers. By constructing a home-based skin care program for newborns, guiding parents to scientifically select newborn products, avoiding physical and chemical factors that irritate the newborn's buttocks, and instructing parents on the correct exposure and cleaning of the buttocks skin, the risk of skin damage can be reduced, thereby easing mothers' anxiety [8].

Additionally, nurses use the WeChat platform to push skin care knowledge, allowing parents to easily access information and answer questions about home skin care. This corrects mothers' incorrect nursing methods, enables them to observe changes in their newborns' skin, such as the fading of rashes on the buttocks, and eliminates their anxiety about unknown risks. During home care, guiding family members to participate in newborn skin care can distribute the mother's caregiving pressure, enhance family cohesion, and further comfort the mother [9].

The final set of data shows that the adverse reaction rate of newborns in Group A was lower than that in Group B, with $P < 0.05$. The reason for this is that during home skin care, nursing strategies are improved based

on the actual skin condition and care needs of the newborn. For example, parents are guided to prevent and control skin problems such as eczema and diaper dermatitis, and to scientifically select nursing strategies and products to meet the individualized care needs of different newborns. By regularly sending home skin care knowledge via WeChat groups, parents are guided to systematically learn nursing knowledge and master various nursing skills and methods, which can improve parents' nursing ability and reduce newborn skin problems. Timely identification and discovery of newborn skin problems during home care, and the improvement of targeted prevention and control strategies, can inhibit the deterioration of skin diseases, improve newborn comfort, and reduce local skin discomfort [10]. In addition, compared to medical institution nursing services, home-based skin care for newborns is more economical. It only requires guiding parents to prepare necessary nursing supplies to provide professional and comprehensive services, which can reduce newborn skin problems.

5. Conclusion

In summary, constructing a home-based skin care guidance program for newborns can improve parents' mastery of skin care knowledge, comfort mothers of newborns, and reduce adverse reactions in newborns. This program has promotional value.

Disclosure statement

The author declares no conflict of interest.

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