International Journal of Medicine and Life Sciences
ISSN: 2518-0223, Volume 3, Issue 2, December, 2018

Clinical Analysis of High-Quality Cooperative Nursing on Relieving Children's Viral Encephalitis Symptoms

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Abstract: To analyze and discuss the application value of high-quality cooperative nursing in the nursing of children with severe viral encephalitis. Methods: 140 children with severe viral encephalitis admitted from January 2015 to January 2018 were randomly divided into the observation group and the control group, with 70 children in the control group receiving routine care and 70 children in the observation group receiving high-quality collaborative care, and the nursing effects of the two groups were compared. Results: the recovery time of convulsion, limb disorder, cranial nerve disorder and consciousness disorder in the observation group was significantly shorter than that in the control group ($p < 0.05$), the effective rate in the observation group was 96.83 %, significantly higher than 71.11 % in the control group ($p < 0.05$), and the recovery rate in the observation group was significantly higher than that in the observation group. Conclusion: Carrying out high-quality cooperative nursing for children with severe viral encephalitis is beneficial to improving the treatment effect and prognosis of children, and is worthy of clinical application and promotion.

Keywords: High - quality collaborative care; Viral encephalitis in children; Clinical analysis

1. Introduction

In the treatment of viral encephalitis, dexamethasone intravenous viral encephalitis is a common central nervous system disease in childhood, mainly manifested as consciousness disorder and nerve disorder, which can be fully recovered after active treatment, but a few children may have sequelae such as mental retardation, limb paralysis and epilepsy [1]. Giving them reasonable intervention can better maintain their physical and mental health and improve their treatment compliance, thus playing a role in consolidating and even enhancing the clinical treatment effect. However, for a long time, children's viral encephalitis has been mainly treated with symptomatic treatment, physical cooling or chemical cooling, timely treatment of intracranial pressure increase and respiratory and circulatory dysfunction, and control of convulsions. The principle of application is drip as the first choice and treatment according to different causes. In the treatment of viral encephalitis, attention should be paid to correct the disorder of water, electrolyte and acid-base balance to avoid suffocation and falling of the bed, or bite of the tongue. Children with severe diseases need to be monitored and treated in PICU[2]. In addition, symptomatic treatment and etiological treatment can have certain effects, while the use of adrenocortical hormone is controversial and is still under discussion.

Recent research shows that the cure rate of children will be greatly improved if high-quality collaborative care can be carried out while drug treatment is being carried out. In view of this, through the analysis of high-quality collaborative care for children with severe viral encephalitis, the situation of no high-quality collaborative care was compared and studied. To carry out comprehensive nursing intervention in the clinical treatment of viral encephalitis in children, and to combine high-quality cooperative nursing mode to form an innovative and targeted treatment plan. The investigation and study confirmed that the combination of high-quality collaborative care can provide important basis and reference for the link of children's viral encephalitis symptoms, enhance parents' mastery of disease knowledge, and be worthy of promotion in clinical work.

2. Respondent

Based on the investigation of children's needs for high-quality collaborative care in severe viral encephalitis sequela, a high-quality collaborative care model for children in severe viral encephalitis sequela was established and its effectiveness was verified[3]. The data of children with severe viral encephalitis hospitalized in a hospital affiliated to a university of science and technology from January 2015 to January 2018 were retrospectively analyzed. 150 patients were randomly selected for follow-up investigation and health examination. after 10 students with heart and lung diseases and other injuries were excluded from the examination, the remaining 140 were followed up. There were 84 males and 56 females.

The age ranged from 1 month to 3 years, with an average of (1.8±0.5) years. The patients were randomly divided into two groups by digital table method. The observation group consisted of 70 cases, including 44 males and 26 females, with an average age of (1.6±0.6) years. The control group consisted of 70 cases, including 40 males and 30 females, with an average age of (1.9±0.8) years. The students were randomly assigned to two groups, 48 boys and 42 girls in each group. They were the study group and the control group respectively, and the age and gender distribution of the students in the two groups were balanced and the average health condition was basically the same. There was no significant difference in gender and age between the two groups ($P > 0.05$), which was comparable. General data can be compared and studied.

3. Detection Methods

The two groups of children were given regular treatment of severe viral encephalitis, the observation group was given high-quality collaborative care, and the control group was given normal diagnostic care [4]. The common nursing standards of the two groups are as follows:

Take cooling measures, actively cooperate with doctors in physical cooling and drug cooling, and also lower the room temperature to ensure quiet and air circulation in the room.

Attention should be paid to keeping the respiratory tract unblocked, unfastening the collar, and removing sputum from the respiratory tract in time so as not to cause brain anoxia due to airway obstruction.

For children with convulsions and seizures, a chopstick wrapped with gauze or napkin or a tongue depressor must be placed between the upper and lower teeth to prevent tongue bites.

Often give children turn over to prevent pressure sores and other secondary infections.

Ensure nutrition supply. If you can't eat, you should adopt nasal feeding.

For children with mental retardation, heuristic re-education should be carried out carefully and patiently to help them recover their memory function and exercise various life skills in time.

For children with paralysis of limbs, they should move their limbs frequently or adopt effective treatment measures such as acupuncture and massage to ensure that they do not fall into the root of the disease after recovery.

In order to prevent vomitus from inhaling or choking, coma children should be taken to lie on the side of their heads.

Help the children turn over once every 2 hours and massage the part under pressure to prevent bedsore. Children should be knocked on the back to discharge sputum and body position to discharge sputum, and artificial sputum suction should be adopted when necessary to prevent the occurrence of falling pneumonia.

Strengthen oral and eye cleaning care, apply proper glycerin to the lips to prevent chapping, and apply cod liver oil drops or chlortetracycline eye ointment to the eyes to prevent keratitis or corneal damage.

After unifying the above common nursing standards, the curative effect, prognosis, sequelae and intelligence quotient of the two groups were compared, and follow-up investigation was carried out to the school age of the children for 3 years[5]. The two groups of children were continuously followed up to observe their normal education, diagnosis, treatment and nursing environment. During the investigation, the two groups of children were ensured to keep the ward quiet and tidy throughout the whole process, the temperature and humidity were adjusted appropriately (18 ~ 22 ℃, 55 % ~ 60 %), and windows were opened regularly to ventilate, so as to add items to the standard of high-quality cooperative nursing content in addition to keeping the indoor air fresh, and to add them to the normal nursing standard:

Add psychological nursing counseling links, actively communicate with children and their parents, and introduce disease causes, treatment methods and related precautions in easy-to-understand language, so as to make them initially understand the disease and eliminate their tension, fear and other emotions.

Through language and body communication, children's trust will be increased and their treatment compliance will be improved.

Diet nursing gives children a diet rich in vitamins, high protein, high calorie and easy to digest, so as to alleviate their digestive tract dysfunction and enhance the body's nutrition. Children who are older and have no obvious consciousness disorder are encouraged to eat independently. The younger age guides parents to breast-feed correctly. If the child is unconscious, he or she will be given nasal feeding nutrition support to ensure adequate nutrition supply.

Skin care regularly trims the nails of children to prevent them from scratching their skin and causing breakage and infection. Change and clean bed sheets and children's clothes in time, keep the bed unit dry and tidy, and wipe it with warm water every day.

Symptom nursing closely monitors the body temperature of children, such as body temperature >38.5 ℃ and immediately gives physical cooling treatment (warm water bath, ice compress, etc.), and if cooling is ineffective, intravenous fluid infusion and antipyretic medication can be given according to the doctor's advice.

According to the condition and age of children, functional rehabilitation nursing guides them in training such as head - up, turning over, sitting, standing and walking, and strengthens language function training so as to achieve gradual and long-term adherence to promote full functional rehabilitation

4. Evaluation Criterion

During the investigation, the main symptom characteristics and onset time of the children were tracked and counted, including high fever, headache, convulsion, nausea and vomiting, consciousness disorder, and hospitalization and discharge time[6]. Evaluation criteria of rehabilitation rate: After high-quality collaborative care, the child has almost no obstacle to action, clinical symptoms completely disappear and no sequelae, and the recovery rate of normal limb function and muscle strength ≥ 90 % is excellent (A); After treatment and rehabilitative nursing, the children had a little maladjustment in their actions, some of them had problems in their motor ability, most of the clinical symptoms disappeared, and their limb function and muscle strength basically returned to normal, with no sequelae or mild sequelae, and the recovery rate was 75 % - 90 % as good (b); After receiving treatment and rehabilitative care, the children recovered normally, without any major obstacle to their motor ability, and the recovery rate was above 60 % ~ 75 % (c); After treatment and rehabilitative nursing, the recovery of the children's motor ability is not helpful. The children's motor ability is still troubled, and even the recovery rate of less than 60 % is considered as poor (D) if their condition does not improve or even worsen. Where the recovery rate is t and the case data is n, then:

$$T = \log\sqrt{(A+B+C+D)^n} / N \times 100\% \quad (1)$$

Intelligence evaluation standard: after IQ test, quotient IQ of 80 ~ 120 is normal, and<80 is intelligence not up to standard. If the child passes the entrance education test after treatment, it means that the patient can receive normal education and the treatment method is effective. On the other hand, they cannot enter the school to carry out normal study life, proving that the method is invalid[7]. Where the psychological age is L and the actual age is M, then

$$IQ = (l/m) \times 100\% \quad (2)$$

The IQ recovery rate algorithm for children is:

$$IQ = T\lim_{x\to\infty}(L/M) \times 100\% \quad (3)$$

5. Experimental Statistical Method

Follow - up investigation and comparison of hospitalized patients from January 2015 to January 2018 were carried out. Through self-designed questionnaires and convenient sampling methods, 126 parents of children with severe viral encephalitis sequela who were about to be discharged from a medical university affiliated hospital, a provincial people's hospital and a provincial children's hospital were selected to explore their need for high-quality collaborative care. The Delphi method was used to conduct two rounds of inquiries with 22 experts from 6 hospitals and 1 nursing college in a province. According to the results of the inquiries, the high-quality collaborative nursing model for children with severe viral diseases in encephalitis sequela was finally established[8]. 70 children and their parents with severe viral encephalitis sequela who visited a hospital affiliated to a medical university from January 2015 to January 2018 were taken as control group, and routine discharge care was carried out. 70 children with severe viral encephalitis sequela who visited a hospital affiliated to a medical university from January 2015 to January 2018 were set up as experimental group and a high-quality collaborative care model was developed[9]. The data were analyzed by SPSS 13.0 statistical software, among which:

$$H = \lim_{x\to\infty} IQ\sum_{i=1}\chi_2(x \pm s)^n \quad (4)$$

Where h is the measurement data, x is the mean number, s is the standard deviation, and n is the sample data. Counting data were expressed in terms of rate. x 2 test and fisher accuracy test were used in the comparison between groups, and the difference was statistically significant with $p < 0.05$.

6. Result Analysis

According to a three-year follow-up survey, the experimental group used the universal core scale of children's quality of life to evaluate and compare the quality of life of children at discharge, one month away from hospital and three months away from hospital, while the control group used the universal core scale of children's quality of life to evaluate and compare the quality of life of children at discharge, one month away from hospital and three months away from hospital, and then evaluated and compared the effect of the two groups' quality of life scores at different periods, and the experimental group used the SVE sequelae children's parents' care knowledge questionnaire score at discharge and three months away from hospital respectively[10]. Independent sample N test, 2 test and Mann - Whitney U rank sum test, paired sample N test and repeated measurement variance analysis were used for data analysis, and SPSS 22.0 software was used for statistical analysis. The total effective rate in the observation group was 96.88 %, significantly higher than 81.25 % in the control group ($P < 0.05$). Compared with the control group, the observation group was better than the control group in terms of hospital stay and clinical symptom relief time, with a statistically significant difference ($P < 0.05$) (see table)

Table 1. Parameters of first - level test indicators for experimental investigation

Test item	Score	χ2	Full score	Selection ra-

			ratio	tio/selection rate
Responsibility of medical organization	6.87±0.33	0.64	84.91	78.15
Rationality of nursing mode	6.45±0.29	0.87	90.04	82.48
Extension of nursing content	6.412	0.94	88.15	95.15
Psychological status of children after discharge from hospital	6.564	0.54	95.15	91.14
Health status of children after discharge from hospital	6.751	0.51	94.15	94.15

Within the detection range of the above indicators, the results of the overall follow-up investigation and evaluation between the control group and the experimental group were calculated and compared to obtain the following data.

Table 2. Statistics of average recovery time of clinical symptoms comparison test results

Group	Observation group (n=70)	Control group (n=70)
Eclampsia	1.76±1.44	5.33±1.92
Physical impairment	0.44±1.92	17.15±3.12
Cranial nerve disorder	8.01±1.57	18.45±2.15
Conscious disorder	1.01±1.00	5.67±1.46
P	0.54	0.54
$\chi 2$	＜0.05	＜0.05

Table 3. Comparative Investigation Results of Average Therapeutic Effect of Two Groups of Children

Group	Observation group (n=70)	Control group (n=70)
Excellent (T≥90%)	36	7
Good (75%<T<90%)	29	28
Sustainable (60%<T<75%)	3	15
Slightly (T<60%)	2	20
effective rate P	96.83%	71.11%
P	0.54	0.54
$\chi 2$	＜0.05	＜0.05

After three years of follow-up investigation and comparative study, it was found that high-quality collaborative nursing made a comparative study of the intelligence recovery of children in the link, and obtained the average intelligence recovery rate of the two groups through a large number of statistical calculations, and obtained the following test results.

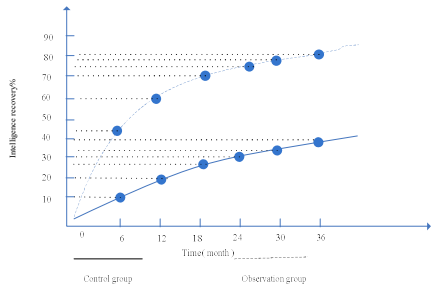
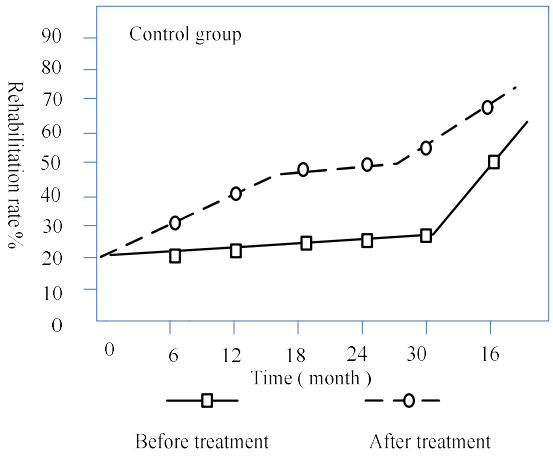


Figure 1. Comparison test results of rehabilitation rate of children.

According to the above picture, it is not difficult to find that the recovery rate of the students in the observation group has been significantly improved after high-quality cooperative nursing, and the recovery rate has been increased by 20 % - 45 % compared with the experimental group. In order to better detect the physical changes and mental rehabilitation of the children, the physical indexes of the two groups of patients before and after admission were compared to get the following Figure.



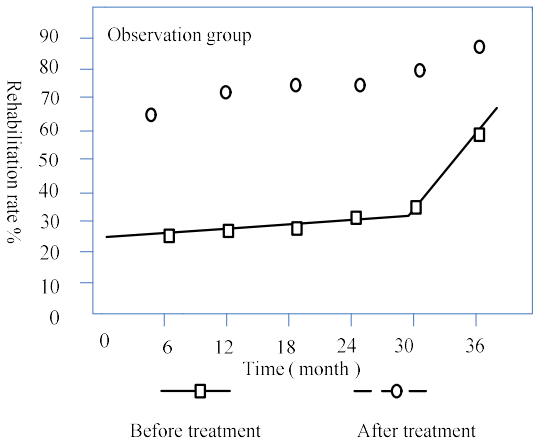


Figure 2. Change of rehabilitation rate of two groups of patients before and after treatment.

According to the above test results, it is not difficult to find that, compared with the traditional general rehabilitation treatment, high-quality cooperative nursing has a strong therapeutic effect on alleviating the symptoms of viral encephalitis in children, and is suitable for the treatment and research of viral encephalitis in children.

7. Discussion

Viral encephalitis in children is mostly caused by brain parenchyma involvement due to pathogen invasion. Without timely and effective treatment, it can induce infectious symptoms of the central nervous system, such as brain softening, edema and even necrosis, resulting in severe consequences such as limb paralysis and even death in children. The risk of disability is high. Literature reports show that about 33.9 % of children with viral encephalitis can remain paralyzed, seriously affecting their growth and development as well as their physical and mental health. Therefore, in clinical treatment, it is of critical significance to protect and reconstruct the central nervous system to the maximum extent. Because children with viral encephalitis are difficult to fully communicate with medical staff, clinical diagnosis and care are difficult. Strengthening body temperature detection and monitoring of clinical symptoms, psychological state and complications can find and deal with changes in the disease in the first place, alleviate clinical symptoms and promote the recovery of the disease. At the same time, the early rehabilitation exercise for children's illness can promote functional recovery. Investigation shows that high-quality cooperative nursing for early recovery of viral encephalitis can reduce the disability rate. The results show that the total effective rate of clinical treatment in the observation group is significantly higher than that in the control group, and the remission time and hospitalization time of clinical symptoms are significantly shorter than those in the control group, consistent with previous literature reports. To sum up, the combination of comprehensive nursing intervention in the clinical treatment of viral encephalitis in children is conducive to the alleviation of clinical symptoms, shortening hospital stay and improving clinical efficacy.

8. Concluding Remarks

High - quality collaborative nursing is a new nursing mode in recent years. It can effectively promote the recovery of patients' physical function and improve the hidden dangers of patients after treatment in the early stage of relieving children's viral encephalitis symptoms. The results showed that the recovery time of convulsion, limb disorder, cranial nerve disorder and consciousness disorder in the observation group was significantly shorter than that in the control group, thus confirming that high-quality cooperative nursing is suitable for alleviating the symptoms of viral meningitis in children.

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