Relationship between health education plan and hospitalization frequency in the children with respiratory tract infection

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Abstract: This paper was to explore the effect of health education frequency and patterns on the children. Children aged 3-12 years were randomly divided into Group A, B and C, respectively received the health education once a month, once ten days as well as once a week within a period of one year .It was as the evaluation both of the hospitalization frequency owing to the respiratory tract infections and the health education loss rate with year turnover. Results shown Group C was close to the times of hospitalization less than 3 times in one year, while Group B was to 3-6 as well as Group A was to the times of hospitalization 6-9 times in one year. The results of health education loss rate, which shown the loss increases with the frequency of the health education, was 28% in Group A, 36.36% in Group B and 46.34% in Group C. Conclusion could be draw as following: the health education frequency and patterns could affect the children by hospitalization rate of respiratory tract infection as well as the health education loss rate. It was a reasonable solution to give them the health education once every ten days.

Keywords: Health education/children Respiratory tract infection/children.

INTRODUCTION

Respiratory tract infection was a common disease for children, and the hospitalization rate was high. It was beneficial for decrease the incidence of the disease to give the people of the right age some education on prevention and cure of the respiratory tract infection. In recent years, many China bodies made research on health education and had make certain achievements. Li's research on the health education shorten the duration of hospitalization in children patients with bronchial pneumonia (Ping *et al*, 2009). Luo's study of respiratory tract infection in patients with health education could effectively alleviate the symptoms (Yulin, *et al*, 2013). Wang's study shown that to carry out health education for family members was beneficial to improve the patients (Liping, *et al*., 2014).Chen studied the application of health education in the planned immunization for children, it displayed that the health education could improve compliance, reduced the incidence of children (Xiaoyan and Yan, 2008). A study in Iran showed that the health education can improve the rational drug use of people, so as to improve the health level of the public (Sarahroodi *et al*, 2010) The .A study showed that strengthen pharmacology knowledge education could improve the ability of the public response to the strong weather changes and reduce the occurrence of diseases (AI-Amin *et al*, 2011). The mentioned research had included from the public health education, to the education form, object and childhood infections and other aspects, but for the health education frequency and patterns affect the morbidity of respiratory tract infection in the children and the health education loss, were not ever reported. By analyzed the changes in hospitalization frequency of respiratory tract infection of children, this paper discussed the health education frequency and patterns affect children's health, to find a reasonable education scheme for children. The results were reported as following.

Clinical data

Subjects investigated: All subjects who were selected aged 3-12 years old, all together 1350 cases, were the children with respiratory tract infection in our hospital from January, 2012 to January, 2013.

Health education content: Health education plan were as following health education prescription on parents and their children who were related to respiratory tract infection: Encouraging children to drink more water to the respiratory mucosa moist, maintaining indoor air fresh, paying attention to bedding light, so as not to cause discomfort and sweating; underwear should be relaxed, so as not to affect the respiratory, guiding the parents to strengthen children's nutrition to develop good eating and health habits, establishing a reasonable life system to form the habit of exercising, such as attending outdoor activities frequently to enhance physical fitness and improve respiratory function, teaching parents how to handle the respiratory tract infection, so that children can receive timely control early in the disease. Children should seldom go to crowded public places, do not spit everywhere, to avoid contact with respiratory infection patients as far as possible. Parents should give their children regular health examination and vaccination on time.

Research methods

Inclusion criteria: Taking the eligible children's first hospitalized time for the observation starting point and

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carrying out health education. The observation period was as 1 year.

Grouping method: Eligible children were randomly divided into Group A, B and C, which received health education once a month, once every ten days and once a week respectively. Data was as below in table 1.

Table 1: The educational objects and frequency

Group	A	B	C	total
Patients	360	280	220	860

Evaluation Index: Hospitalization frequency was meaning to the children's respiratory injection hospitalization times in a year. The loss of health education was meaning to the number of not timely education, inscribed into the health education loss rate. Someone who loss health education once above would no longer be included in the hospitalization frequency group.

Evaluation method: Established mathematical model for each group's related data, carrying out corresponding card analysis, test analysis and variance analysis respectively and analyzed the results of each group synthetically.

RESULTS

The frequency of education and hospitalization were in table 2 Using SPSS skin's chi square test of independence, the test chi square value was 27.008, P value less than 0.05. The significant difference shown education frequency associated with hospitalization frequency.

Table 2: Education frequency and hospitalization frequency

Hospitalization Frequency	The frequency of education			
	A	B	C	Total
<3	110	102	102	314
3~6	114	104	66	284
6~9	106	66	40	212
>9	30	8	12	50
Total	360	280	220	860

We could get from the SPSS multiple correspondence analysis graph, one education monthly and 6-9 times hospitalization was closely related, while one education every ten days and 3-6 times hospitalization was closely related as well as one education each week and less than three times hospitalization was closely related.

From health education loss rate, Group A and B were significantly lower than that in Group C (table 3). It showed that the health education frequency could affect the health education loss rate. Comparing the loss rate, as P <0.01, the overall loss rate of the three groups were significantly different. Using fourfold table to compare pair wise, it could be gotten as the loss rate of Group A was significantly lower than that of B, while Group B was significantly lower than that of C.

Table 3: Health education loss condition

Education (cases)	The frequency of education			
	A	B	C	Total
Complete education	360	280	220	860
Education loss	140	160	190	490
Total	500	440	410	1350
Education loss rate%	28[1]	36.36[2]	46.34	--

Note: superscript 1 stands for the comparison of Group A and C's loss rate, P<0.05; superscript 2 stands for the comparison with Group C's loss rate, P<0.05.

DISCUSSION

This study shown that giving the children and their parents respiratory tract infection prevention knowledge and education could reduce the hospitalization frequency of children suffering from respiratory infections. The education had a certain effect in preventing and curing respiratory tract infections, which was consistent with a number of research institutions achievements (Ping, *et al*, 2009 and Yulin, *et al*, 2013). The results of this study confirmed that the increase in health education could reduce the frequency of respiratory infection hospitalization. But with the increase of the frequency of health education, maybe because of the increased cost of time and resource, it could lead to the increase in health education loss rate as well as affected the health education compliance as reducing which could bring unhelpful impact on health education effect. From the research results, it shown that once health education a month, a lower proportion education loss rate, maybe has a increase of hospitalization times. Once health education per week, a higher proportion education loss rate, was better to the education with a decrease of hospitalization times. Once education every ten days, its turnover rate and effect were between the former two. The results of this study shown that once education every ten days was a profitable equilibrium point and the most reasonable solution.

CONCLUSION

The paper innovatively discussed how did the healthy education frequency and forms affect children by the hospitalized frequency owing to respiratory tract infection and the health education loss rate. It shown that the education frequency did affect the latter two rates. Once education every 10 days was a relatively reasonable solution. Nevertheless, this study only studied children aged 3-12 year-old. The following questions didn't get further exploration. Does the education have the same effects for children of different ages? Does the education

have the same effects for families with different backgrounds? These issues need to be further studied.

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