Application of "Green Channel Card" in Critical Patients in Emergency Department

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Article History Received 15 May 2021 Accepted 25 May 2021 Published 30 June 2021

Cite this Article Zhu Baiyu, Li Dongliang, Feng Bijuan, Mo Zhifeng. Application of "Green Channel Card" in Critical Patients in Emergency Department [J]. Medical Research, 2021.3(2):11-16, [http://dx.doi.org/10.6913/MRHK.202106_3\(2\).0002](http://dx.doi.org/10.6913/MRHK.202106_3(2).0002)

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ABSTRACT

Objective To explore the effect of "green channel card" in critically ill patients in emergency department.

Methods Seventy-five critically ill patients in the emergency department of our hospital from August 2019 to April 2021 were selected as the experimental group, and 63 critically ill patients from June 2018 to July 2019 were selected as the control group. The experimental group was admitted by using the "green channel card", and the control group was admitted by the green channel signed by the general administrative duty in the hospital. The success rate of emergency rescue, patient satisfaction, waiting time, effective complaints and other related conditions were compared between the two groups.

Results The success rate of rescue in the experimental group increased, but there was no statistical significance; while the waiting time in the experimental group was significantly higher than that in the control group ($P < 0.05$), the patient satisfaction was also higher than that in the control group ($P < 0.05$); the complaint rate was lower than that in the control group ($P < 0.05$).

Conclusion The use of "green channel card" in emergency critically ill patients can significantly shorten the waiting time for rescue, improve patient satisfaction, reduce the complaints of patients and their families, and make the green channel more efficient, usual and rapid. It is worthy of being widely popularized in the clinical application.

Key words Green channel card; Emergency department; Critical illness

As the first line of defense to rescue acute and critical patients, the emergency department of most hospitals in China should not only undertake the rescue of various acute diseases such as myocardial infarction, multiple injuries, and acute poisoning, but also be responsible for various types of group injuries, accidental injuries, and landslides that are public health emergencies. Therefore, the establishment and rapid operation of the green channel are particularly important for the rescue of critically ill patients in the emergency department, but this admission model will bring a heavy burden to hospitals and society. It has always been a concern for hospitals and related departments who should pay for all relevant costs of the green channel, such as registration, examination, drugs, treatment, surgery, and so on. The state stipulates that hospitals should not

only implement humanitarian and unconditional participation in rescue, but also cannot ignore the economic benefits of hospitals. In the face of this economic difficulty and the need for treatment of patient hospitals are often passive, that is bound to affect the smooth nature of the green channel and the treatment of patients. Since August 2019, our hospital has used the "green channel card" and found that it can not only effectively solve the problem of nosocomial arrears, but also shorten the treatment time of critically ill patients and improve the success rate of rescue of patients. It is reported as follows.

1. Materials and methods

1.1 Clinical data

75 critically ill patients in the emergency department from August 2019 to April 2021 were selected as the experimental group, and 63 critically ill patients in the emergency department from June 2018 to July 2019 were selected as the control group. The experimental group was admitted by using the "green channel card", and the control group was admitted by the green channel signed by the general duty in the hospital. The experimental group consisted of 36 males and 39 females, aged 15-82 years, with an average of 51 years; 17 cases of trauma, 3 cases of acute poisoning, 8 cases of acute myocardial infarction, 12 cases of cerebral hemorrhage, 18 cases of cerebral infarction, and 17 cases of other critical and severe diseases. The control group consisted of 29 males and 34 females, aged 13-83 years, with mean one of 47 years; 13 cases of trauma, 2 cases of acute poisoning, 6 cases of acute myocardial infarction, 9 cases of cerebral hemorrhage, 11 cases of cerebral infarction, and 22 cases of other critical and severe diseases. There was no significant difference in the data between the two groups ($P > 0.05$).

1.2 Method

1.2.1 Entering the green channel to rescue patients: all patients with unstable vital signs or patients with various critical diseases that are foreseen to be life-threatening, and those with unstable vital signs caused by other acute diseases requiring rescue, the key populations are trauma, acute poisoning, acute myocardial infarction, cerebral hemorrhage, cerebral infarction, electrical injury, drowning; patients with sudden and mass public health events, such as multiple injuries caused by traffic accidents, landslides, landslides, etc.; 119 first aid in the event of transferred social disasters such as fire and explosion.

1.2.2 In the control group, the doctor on duty opened a green channel and was admitted to the hospital using a green channel signed by the general duty of the hospital. The double value was actively rescued when reporting the general duty and signing, and the senior nurse on duty escorted to the relevant departments for laboratory examination.

1.2.3 Doctors in the experimental group use the "green channel card" for comprehensive process management and implementation. The financial department of the hospital shall handle 5 green channel cards in advance, 3 cards with a charge of 5,000 yuan and 2 cards with a charge of 10,000 yuan, and the management measures shall be issued by the hospital; the green channel cards shall be kept by the nurses in the emergency department and handed over and signed every day; the doctor on duty decides that the critically ill patients of that type enter the green channel and complete the corresponding laboratory tests, examinations and treatments,

surgeries, etc. through the "green channel card" at the same time of active rescue treatment. At the end of rescue, the nurses shall lead the relatives of the patients to supplement the relevant expenses incurred by the patients and register them in the green channel card handover book; the expenses that cannot be recovered shall be confirmed by the director of the department, signed by the president in charge, and supplemented and complete by the financial department to ensure the operation of the green channel card.

1.2.4 Outcome measures: The waiting time, successful emergency rescue, patient satisfaction and effective complaints were recorded and compared between the two groups.

1.2.5 Statistical methods: The obtained data were statistically analyzed using SPSS 17.0 software. Measurement data were expressed as $\bar{x} \pm s$ and compared using the t-test; enumeration data were analyzed using the χ^2 test. $P < 0.05$ was considered statistically significant.

2. Results

2.1 Comparison of waiting time for relevant links between the two groups 1.

Table 1 Comparison of waiting time between the two groups (min, $\bar{x} \pm s$)

Group	Number of subjects	Pre-examination triage	First Aid Response	Inspection time
Experimental group	75 cases	3.21 ± 0.18	2.11 ± 0.12	11.38 ± 6.78
Control group	63 cases	5.41 ± 0.37	5.69 ± 0.37	23.21 ± 5.26
T value		11.11	15.32	12.35
P value		< 0.05	< 0.05	< 0.05

2.2 Comparison of successful rescue, satisfaction and complaints between the two groups 2.

Table 2 Comparison of successful rescue, satisfaction and complaints between the two groups

Group	Number of subjects	Successful rescue	Patient satisfaction	Complaint
Experimental group	75 cases	71	69	0
Control group	63 cases	59	45	5
Cassette value		0.11	6.32	4.35
P value		> 0.05	< 0.05	< 0.05

3. Discussion

The General Office of the State Council issued the Guiding Opinions on Establishing the Emergency Response System for Diseases in February 2013, which require hospitals to timely and effectively rescue critically ill patients without refusing, evading or delaying treatment for any reason^[1]. Our hospital has always opened up a green channel for critically ill patients. After the doctor opens the examination application, the

examination is performed after review and approval by the general administrative duty of the hospital. During this period, the medical care in the emergency department may have to be reviewed and approved for many times. The formalities are cumbersome, and manual registration is inevitable to miss, causing difficulties in afterwards traceability. In order to reduce the review and approval and strive for rescue time, we have developed a green channel card relying on informatization means, optimized the relevant rescue process, avoided the trouble of repeated review and approval, and helped shorten the diagnosis and treatment time of critically ill patients^[2]. In the process of rescue of critically ill patients, the concept of "time is life" is reflected, and the green channel card is a very effective means to make critically ill patients reach "zero time waiting" by integrating the internal resources of the hospital, race against the clock for rescue, maximize the recovery of the patient's vital signs, and enable patients to receive definitive treatment in the shortest time. In the treatment of critically ill patients, from the emergency department to the admission ward, or from the emergency department to the operating room, intensive care unit, etc., the experts of each department will participate in the rescue order during the whole operation, and in the event of an emergency, the department will help ensure the survival of patients as soon as possible. If any department does not coordinate with each other, it will affect the operation of the hospital and affect the time of patient visit. For all the costs incurred when the patients in the control group enter the green channel in the emergency department, please indicate the signature of the general duty personnel, and require the relevant departments to unconditionally cooperate with the examination and first aid. The signed waiting time will invisibly delay the rescue of the patient by the relevant department. The study enables patients to complete registration, examinations, prescriptions, and procedures on the emergency department system by implementing and optimizing a green channel card. The emergency department reaction is unimpeded. B ultrasound, CT and other departments can also avoid artificial delay due to transportation, give priority to all examinations and treatments, and buy time to follow up specialist treatment, hospitalization and surgical treatment^[3, 4]. In addition, our hospital uses computer network management technology and advanced automated billing system, which eliminates the phenomena of frequent waiting for payments and price adjustment and gains more valuable time for rescuing critically ill patients^[5-7]. The data of this group showed that the waiting time of relevant professional examinations in the experimental group was higher than that in the control group ($P < 0.05$).

We have established a rapid emergency green channel for acute stroke, myocardial infarction, and acute trauma together with neurology, surgery, cardiology, and operating room while improving the use of the "green channel card". Emergency department doctors and nurses receive 120 notices to initiate the plan, immediately notify the imaging department, catheter room and related specialties to directly send the patients to the intensive care unit, catheter room and operating room after completing the preoperative preparation in the emergency department. Each specialty responds rapidly, actively adopts specialist treatment, achieves early identification and timely intervention, gains the opportunity for the rescue of critically ill patients, makes the in-hospital and out-of-hospital specialist emergency channels of critically ill patients unimpeded, and improves the success rate of rescue of critically ill patients^[8-11]. This study showed that the whole diagnosis and treatment

time of patients in the experimental group was shorter than that in the control group, which gained time for critically ill patients to receive definitive treatment and improved the success rate of rescue in the experimental group. Emergency department strengthens internal management, doctors on duty accurately check the double value, patients in line with the green channel open the green channel at the first time, use the "green channel card", relevant departments no longer have to worry about who pays for the cost of green channel patients, medical staff have no worries, wholeheartedly invest in the rescue of patients, solve the confusion caused by the cost of emergency green channel for a long time, avoid the delay in treatment due to no funds, ensure that the green channel links are smooth and quick, leave a good impact on patients and their families, promote the harmony between doctors and patients, ensure the medical safety of patients, continuously improve patient satisfaction, and effectively prevent the occurrence of medical disputes. " The use of green channel card can further improve the green channel process, improve the success rate of rescue for critically ill patients in emergency department, shorten the waiting time for patient rescue, improve patient satisfaction, reduce complaints and make the green channel smooth, efficient and quick. It is worthy of being widely popularized in the hospital.

ACKNOWLEDGEMENT

This study was supported by the Seventh Affiliated Hospital, Sun Yat-sen University.
The research was performed in the Seventh Affiliated Hospital, Sun Yat-sen University.

STATEMENT

There is no conflict of interest in this article.

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