Study on the Influence of Intelligent Pre Triage System on Emergency Quality

Fuguo Cao, Bo Chen*, Liman Yang

Department of Emergency, Suizhou Central Hospital, Suizhou Hospital of Hubei University of Medicine, Suizhou, 441300, China
*Corresponding author

Abstract: *In order to improve the emergency quality of domestic hospitals and promote the rapid development of medical and health system, the impact of intelligent pre triage system on emergency quality is studied. Through the analysis of the feedback from the pilot hospitals, it is found that the system has an important impact on the collection and transmission of patients' information, early warning of patients' condition, grading of patients' condition and arrangement of triage order, promotion of flexible scheduling system, and improvement of rescue effectiveness. This study affirms the practicability and advanced nature of the intelligent system of preview triage, so as to promote the system in all hospitals in China and improve the quality of emergency.*

Keywords: *Pre triage, Emergency, Intelligent, Triage system*

1. Introduction

The promotion of intelligent pre triage system plays an important role in the current emergency departments of hospitals. At present, the current situation of hospital emergency generally crowded, has developed into a worldwide medical system, all need to face severe problems. According to the existing problems, corresponding solutions must be put forward. The intelligent system of pre examination and triage mentioned in this paper is a major technical support to solve related problems. The intelligent system with the rapid development of computer technology, so the version of the system should also be based on the needs of continuous compatibility and upgrading. At present, in our country, there are still immature systems in the pre triage system. The related reform of many hospitals is only to input the paper-based case records retained by the hospital for many years into the computer for electronic filing, so as to facilitate sorting, searching and comparison. It did not make good use of the perfect pre triage intelligent system to improve the overall quality of the hospital emergency. This paper mainly summarizes and studies the problems in the trial operation of the system, and analyzes the impact of the system on the quality of emergency.

2. The Collection and Transmission of Patient Information is Affected

As for the pre triage intelligent system, because of the problems in the actual system development, operation and maintenance costs, the system has not been popularized by domestic hospitals. At present, the function of the system in the hospital is basically limited to the collection and transmission of patient information. But even so, it is of great significance to collect and summarize the patient information quickly and analyze the patient's condition. In the process of collecting information, the pre triage system emphasizes to maximize information acquisition. Because the ultimate purpose of using the system in hospital is to use technical means to improve the efficiency of the treatment of patients. As a front-line organization to treat and save patients, patients and their families are inevitably unable to cope with sudden diseases. At this time, in the initial collection stage of patient information, the system needs to be able to quickly identify the individual identity information. In addition to the ID card provided by the patient to prove the identity information, the matching and recognition ability of the system needs to be able to support any one of the three kinds of certificates: medical insurance card, ID card and medical card, and can quickly and accurately match the personal information and establish the patient file when carrying out the certificate recognition action. For patients who have successfully established files, the system should be able to quickly retrieve and identify, save the time of registration and other work [1].

3. Early Warning of Patients' Condition Affected

In the pilot hospital, the operation of the intelligent system of pre examination and triage was carried out, and the medical staff after practical training. The evaluation information of individual patients will be uploaded to the system in real time. Through this mode, information transmission in the system can be realized. The information mainly transmitted includes but is not limited to the basic vital signs of patients, such as blood pressure, respiration and heart rate. After the patient's vital signs are uploaded and summarized, a quantitative table of disease early warning score will be automatically formed. The quantitative table not only plays the role of early warning, but also helps to grade the patients' condition. In addition, because the system has collected and stored the patient's medical information, it is equivalent to supporting the sharing of disease information in the pre triage system. In the process of treatment, we can intuitively understand the patient's allergy history, genetic diseases and other basic conditions, which is of great help to save time cost and treatment cost, and avoid the economic loss and time loss caused by redundant inspection and multiple inspection. Combined with the feedback from the pilot hospitals, in addition to the bearing problem of the algorithm, the sensitivity and specificity need to be detected continuously. Sensitivity and specificity in the clinical range, respectively, refer to the ability to successfully detect the patients based on a certain test or system, and judge the actual patients as true positive. And based on a certain test or system, the ability to correctly determine the uninfected [2].

4. The Classification of the Disease and the Order of Triage Were Affected

According to the operation experience of foreign intelligent system of pre examination and triage, we can intuitively summarize the importance of "disease classification" system for the operation of the system. According to the disease classification system, it is generally divided according to the state of patients at the time of admission. The patients whose condition is classified as grade I are very critical patients. They do not need to call and queue up, but directly enter the rescue department for rescue. The patients of grade II are all acute and severe patients, and their vital signs are unstable after they arrive at the hospital, which may endanger their lives in a short time, and they also need to be rescued quickly. The patients classified as grade III were all in emergency and unstable vital signs, which needed emergency treatment by doctors. The patients classified as grade IV are generally non emergency patients, whose vital signs are stable and can wait in line for treatment. For the problem of treatment order, it is necessary to evaluate after the grading of the disease, and divide the emergency area into three parts according to the critical condition of the patients, namely, the red critical care care area. The patients with the disease grading of I and II directly enter the red area for rescue; the yellow area is the emergency diagnosis and treatment area, and the patients with the disease grading of III enter the yellow area for rescue Emergency; the green area is the general diagnosis and treatment area, and patients with grade IV can wait in line for treatment. Moreover, the triage order is not that after the successful collection of patient information, only one assessment of the disease can be done once and for all. However, it is necessary to reevaluate every 30 minutes, integrate and process patient information, and update the condition grading in real time. It is of great help to improve the quality of emergency treatment to classify the patients' condition through the intelligent system of pre triage and arrange the triage order reasonably.

5. The Rescue Prescription under the Flexible Scheduling System is Affected

In recent years, the flexible scheduling system has been controversial in the medical system. Although the system was put forward many years ago, it can not be well implemented in the actual implementation of hospital scheduling. The fundamental reason is that the intelligent pre triage system has not been widely implemented in the national medical system. Without the support of the advanced system, the hospital can't be relaxed in the face of patients with unknown number and classification, but needs to be prepared all the time. Although this may cause some waste of resources, medical staff must be fully prepared for patients who may come at any time. Based on the pre triage intelligent system, the implementation of flexible scheduling system is of great significance to reduce the waste of medical resources, reduce the workload of medical staff, and improve the effectiveness of rescue. However, if the pre triage system is not interconnected, it can only realize the sharing of patients in individual large hospitals. So the flexible scheduling system is likely to be inapplicable, and may even seriously affect the rescue response speed of critically ill patients. Generally speaking, it is difficult to improve the rescue efficiency, and may even lead to medical accidents due to untimely rescue. The intelligent

system of pre examination and triage can not be popularized abroad without the update and iteration of computer technology. Although there is no world recognized standard for these algorithms, they are all promoted and operated on the premise of improving the efficiency of diagnosis and treatment, and the effect is proved to be excellent. At the same time, in view of the timeliness of emergency and rescue, if the pre triage system can be popularized nationwide, it will be a strong boost for the development of China's medical system [4].

6. Conclusion

The popularity of intelligent pre triage system has become a major trend in the development of the future medical system. And the application of the system can also provide a strong boost to the improvement of China's medical standards. Industry intelligence is the only way to development, although the system encountered many obstacles in the promotion process, it still has excellent prospects. As long as we rely on advanced technology, we can improve the quality of emergency. However, some of the views in this paper fail to consider the actual conditions, which may be too idealistic, for reference only.

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