Diabetes Insulin Pump Treatment of Patients with the Most Priority Rehabilitation Nursing Method Selection Study

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Abstract: The selection of conventional rehabilitation nursing methods used in the rehabilitation nursing of diabetes insulin pump treatment, there is not ideal effect of blood glucose control and the lack of slow recovery speed, so the selection of the most priority rehabilitation nursing methods for patients with diabetes insulin pump treatment research. Establish the database of selecting the most priority rehabilitation nursing methods for patients with diabetes insulin pump treatment, introduce the optimal selection algorithm of rehabilitation nursing, and realize the model construction of selecting the most priority rehabilitation nursing methods for patients with diabetes insulin pump treatment; To determine the most priority rehabilitation nursing parameters for patients treated with insulin pump, to realize the selection of the most priority rehabilitation nursing methods for patients treated with diabetes insulin pump, and to complete the research on the selection of the most priority rehabilitation nursing methods for patients treated with diabetes insulin pump. The experimental data showed that the proposed rehabilitation nursing method was 55.6% more effective than the conventional rehabilitation nursing method in blood glucose control, and the recovery speed of patients was 45.3% faster. This method is suitable for patients with diabetes insulin pump treatment of the most priority rehabilitation nursing method selection.

Keywords: Routine rehabilitation nursing; Insulin pump therapy; Rehabilitation nursing; Method selection; Control effect; Diabetes

1. Introduction

As a common metabolic disease in clinical practice, there are many causes of diabetes mellitus. Especially in recent years, under the background of improving the living standard of the public, excessive dietary sugar intake increases the incidence of diabetes mellitus. In clinical treatment, the selection of common nursing methods is not ideal in the effect of blood glucose control and insufficient in promoting the slow recovery of diabetic patients. Therefore, a study on the selection of rehabilitation nursing methods for patients treated with insulin pump is proposed. To establish the database of the selection of the most priority rehabilitation nursing methods for patients with diabetes insulin pump treatment, introduce the optimal selection algorithm of rehabilitation nursing, and realize the construction of the model of the most priority rehabilitation nursing methods for patients with diabetes insulin pump treatment; To determine the most priority rehabilitation nursing parameters for patients with insulin pump therapy, to achieve the selection of the most priority rehabilitation nursing methods for patients with diabetes insulin pump therapy, and to achieve the research on the selection of the most priority rehabilitation nursing methods for patients with diabetes insulin pump therapy. In order to ensure the effectiveness of the research, simulation experiments were carried out. Two different rehabilitation nursing methods were used to select blood glucose control effect and patient rehabilitation speed simulation test. The experimental results show that the selection of the most priority rehabilitation nursing method for patients with diabetes insulin pump therapy is highly effective.

2. Construct the Model of Selecting the Most Priority Rehabilitation Nursing Method for Diabetic Insulin Pump Patients

2.1. Establish the database of the most priority rehabilitation nursing methods for patients with diabetes insulin pump treatment

There are the following problems in the database construction: the database construction process, the design of a reasonable structure, and the complete function of the database application[1]. The database construction process is as follows: first, the database requirements analysis. In-depth analysis of needs is the primary task of database design. Continuous investigation and analysis of

patients' needs and understanding of rehabilitation and nursing needs and processes are the basis of database conceptual model design. Then the conceptual model is established. A conceptual model is a data modeling based on the analysis of users' requirements, which is a modeling of the information world[2]. Secondly, the logical model is established. Database logical structure design is the process of transforming conceptual model into data model. Through logical structure design, database application system will be put into practice. The final instance is populated. The specific storage of the database is designed to create rules such as storage table, view and constraint to realize specific functions of the database. After the database design is completed, the instance is filled in the database to realize relevant applications[3].

Selection of rehabilitation nursing method resources, priority should be given to the selection of rehabilitation nursing method database should pay attention to the practical needs of patients, need to screen representative digital resources to be integrated and used. Prepare insulin, insulin pump from the refrigerator before installation put install 6 hours at room temperature about 25 ℃. When insulin becomes hot, there will be gas overflow to avoid insulin bubbles and block infusion installation[4]. Installation of pump nursing installation of pump site, to avoid frequent activities vulnerable to collision site, it is appropriate to choose the location beyond the umbilical cord 5cm, the thickness of the subcutaneous tissue is appropri-

ate, blood supply is good and stable, avoid excessive friction and changes in skin wrinkles, to maintain the stability of insulin absorption pump should be strictly sterile operation. When the needle is buried, the needle of the needle helper is 90 degrees from the skin[5].

The key problems of selecting the most priority rehabilitation and nursing methods for patients with diabetes insulin pump therapy include: database structure design, resource digitalization, data selection and database information service platform design. For example, images are stored as JPEG, text is converted to PDF, and so on. Secondly, it is necessary to organize, disseminate and share the related resources of the database of rehabilitation and nursing methods with the highest priority, so as to establish data management norms in line with the modern technical environment, that is, the formulation of data[6].

The construction of the database of the most priority rehabilitation and nursing methods, the overall design of the rehabilitation and nursing resource database, and the overall design of the rehabilitation and nursing resource database are shown in figure 1. The characteristic database is mainly divided into nine modules, the first part is the digital storage management of rehabilitation nursing related resources, the second part is the digital management of rehabilitation nursing related events, the third part is the application and development of rehabilitation nursing digital resources.
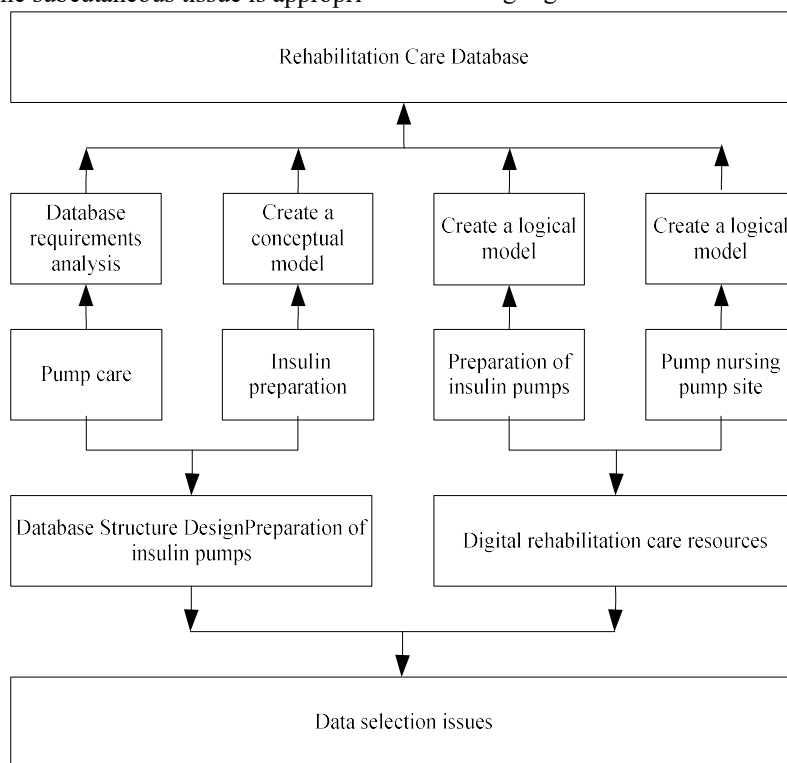

Figure 1. General frame diagram of rehabilitation nursing database

The first part is the organization and management of digital resources, including pictures and audio and video databases. Among them, the photo library contains all kinds of rehabilitation and nursing resources, and stores different digital resources by category. The nursing document database mainly focuses on the research results of rehabilitation nursing and stores the research results of rehabilitation nursing into the database after digitization. Audio and video resource database is a database obtained by audio and video collection of relevant resources[7].

The second part is rehabilitation nursing digital management, including patient information management and related event management. Patient information management is the organization and management of patient-related information. According to different types of data, the management of rehabilitation and nursing data adopts the method of combining file system and relational storage, which can not only make the resource database convenient and flexible to integrate with other application systems, but also give full play to the advantages of relational mode and file system. The advantage of this method is that it is not necessary to convert various types of data resources into binary storage required by the database, but to realize the association with specific data through address field, which can effectively improve the efficiency of the database[8].

2.2. Introduce the optimal selection algorithm of rehabilitation nursing

Due to different rehabilitation nursing choices, for example, some patients hope to change medicine the least, some hope to go through the shortest rehabilitation time, and some hope to spend the lowest cost, etc. Therefore, how to put forward a reasonable selection algorithm of rehabilitation nursing according to the needs of different patients under the existing rehabilitation nursing conditions is the choice based on the selection database of rehabilitation nursing methods. Currently, the most widely used algorithm for optimal selection of rehabilitation nursing is to establish the optimal mathematical model of rehabilitation nursing based on the data in the database, and design the algorithm to find the most preferential rehabilitation nursing method[9].

Due to the uncertainty caused by different needs of patients during rehabilitation, these uncertainties put forward higher requirements for the selection of rehabilitation nursing. To solve the above problems, domestic and foreign scholars have put forward a large number of models and ideas, put forward the optimal selection algorithm of rehabilitation nursing in line with The Times, according to the different descriptions of patients, extract the characteristics of patient information, and then find the patients have the most obvious nursing needs, to achieve the optimal selection algorithm of rehabilitation nursing. The algorithm structure is shown in figure 2.
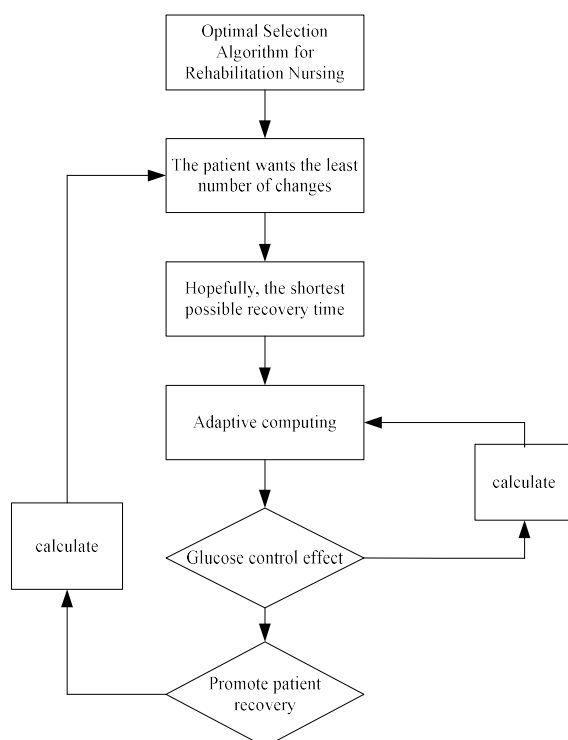

Figure 2. Introduce the optimal selection algorithm structure chart of rehabilitation nursing

The optimal selection algorithm of rehabilitation nursing was introduced.

3. Achieve the Diabetes Insulin Pump Treatment of Patients with the Most Priority Rehabilitation Nursing Method Selection of Research

3.1. Determine the insulin pump treatment of patients with the most priority rehabilitation nursing parameters

Based on the establishment of the database for the selection of the most priority rehabilitation nursing methods for patients with diabetes insulin pump treatment, the optimal selection algorithm for rehabilitation nursing was introduced to realize the construction of the model for the selection of the most priority rehabilitation nursing methods for patients with diabetes insulin pump treatment. By selecting the model construction, we can further determine the most priority rehabilitation and nursing pa-

rameters for patients treated with insulin pump[10]. In determining the most priority rehabilitation nursing parameters for patients treated with insulin pump, we cannot ignore the parameters of blood glucose control effect and the parameters of promoting the recovery speed of patients.

Blood glucose monitoring was performed with a glycemic meter to monitor the blood glucose at the end of the fingers. The blood glucose was measured several times a day (2 hours before and after meals, before going to bed) according to the blood glucose status of the patients. The formula was expressed as follows:

$$B = c_1 + c_2 + c_3 \qquad (1)$$

In the formula, B represents the total number of blood glucose tests, c_1 represents three meals before, c_2 represents two hours after, and c_3 represents bedtime. Fig. 3 shows the flow chart of the most priority rehabilitation and nursing parameters for patients treated with insulin pump:
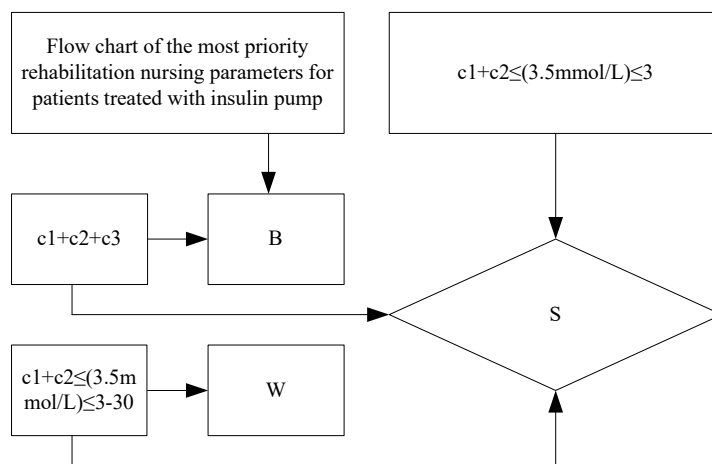

Figure 3. Insulin pump treatment of patients with the most priority rehabilitation nursing parameters flow chart

3.2. Realize the selection of the most priority rehabilitation nursing method for patients with diabetes insulin pump treatment

By setting up the database of selecting the most priority rehabilitation nursing methods for patients with diabetes insulin pump treatment and introducing the optimal selection algorithm of rehabilitation nursing, the model of selecting the most priority rehabilitation nursing methods for patients with diabetes insulin pump treatment was established. Then determine the insulin pump treatment of patients with the highest priority rehabilitation nursing parameters, can achieve the diabetes insulin pump treatment of patients with the highest priority rehabilitation nursing methods.

In order to select the most priority rehabilitation nursing methods for patients with diabetes insulin pump therapy, it is necessary to determine the nursing methods. Diabetes patients priority nursing methods: such as condition monitoring, health education and discharge guidance; The specific methods of humanistic care and psychological counseling are as follows: provide patients with a comfortable and quiet ward environment; After the operation, nursing staff should maintain the air circulation in the ward to ensure the appropriate indoor temperature and humidity; In the process of nursing, the medical staff should do four light things: speak, walk, operate and open and close the door gently[11].

Postoperative psychological counseling and intervention for patients: patients receiving insulin pump therapy for

diabetes should not only tolerate the body. In addition, affected by environment, illness and other factors, patients are prone to negative psychological emotions such as fear, loneliness and anxiety. Therefore, medical staff should strengthen the communication and communication with patients, and before the treatment to the patients and their families to talk about the reasons for receiving insulin pump treatment, purpose and complications are very likely to occur. Postoperative, the state of exhaustion of the patient, this asks medical personnel to use the skill of communication appropriately, if closely observe patient facial expression, use card, clipboard to wait, give patient psychology to channel reach intervene. In addition, nursing staff should also guide patients to relax therapy, such as deep breathing, muscle relaxation, music therapy and other transfer the attention of patients, alleviate the adverse psychological mood of patients.

Nursing method for patients after pump installation: patients receiving insulin have complicated conditions and low immunity, and postoperative patients with pump mouth infection are more likely to be installed; Therefore, nursing staff should do a good job of nursing patients with pump mouth installation, adjust the patient's lying position, to ensure that their breathing is smooth; In addition, patients should be given more water, such as continuous micro pump medicine on time, good care of the patient's body: timely dressing around the drug and disinfection of local skin, keep clean and dry, prevent complications[12].

The integral nursing method of the patient: we should take the patient as the center, in addition to providing the diagnosis and treatment of the disease, nursing, but also to understand the psychology of the patient, get the cooperation and support of the family and the patient unit, remove their psychological concerns and concerns, in the best psychological state, actively cooperate with the treatment and nursing. For patients with the implementation of the body, mind, society as a whole, quality, humanistic care and nursing, maintain life, alleviate pain and promote the early recovery of patients.

The conclusion of the above nursing methods is the key to the selection of the most priority rehabilitation nursing methods for patients with diabetes insulin pump therapy. Fig. 4 shows the selection of the most priority rehabilitation and nursing methods for patients with diabetes treated with insulin pump:
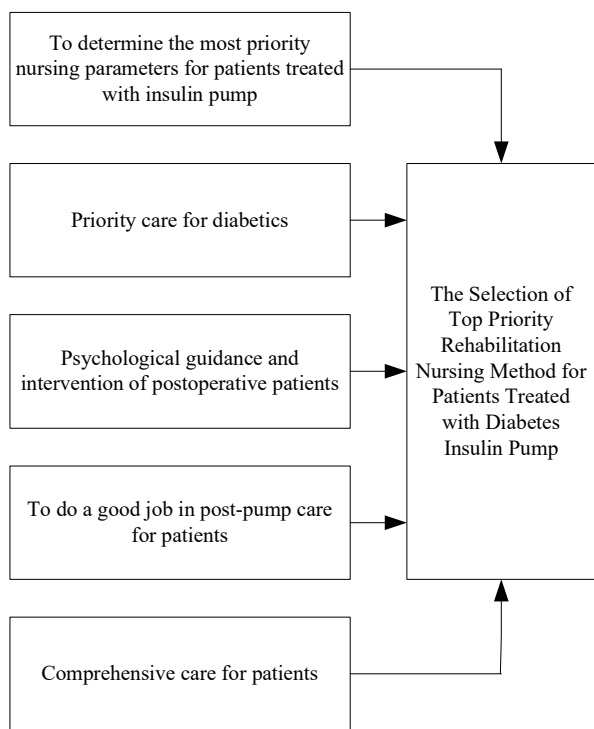

Figure 4. Diabetes insulin pump treatment of patients with the most priority rehabilitation nursing method selection chart

Based on the construction of the model of the selection of the most priority rehabilitation nursing method for patients with diabetes insulin pump treatment, the selection of the most priority rehabilitation nursing method for patients with diabetes insulin pump treatment can be realized according to the determination of the above nursing methods.

4. Experimental Results and Analysis

In order to ensure the effectiveness of the study on the selection of the most priority rehabilitation nursing method for patients with diabetes insulin pump treatment proposed in this paper, the simulation experiment was carried out. In the process of the experiment, different rehabilitation nursing methods were used as the experimental objects to improve the effect of blood glucose control and promote the speed of rehabilitation simulation test. The selection of the most priority rehabilitation nursing methods for diabetic insulin pump patients was simulated. In order to ensure the effectiveness of the experiment, the conventional rehabilitation nursing method was used as the comparison object to compare the results of the two simulation experiments, and the experimental data were presented in the same data chart.

4.1. Comparison of blood glucose control effect

During the experiment, two different rehabilitation nursing methods were used to work in the simulated environment to analyze the changes of blood glucose control effect. The comparison results of the experimental results are shown in table 1.

Table 1. Table of changes in glycemic control effect

Case type number	Regular care	Top Priority Rehabilitation Care Method
1#	23%	73%
2#	24%	76%
3#	24.7%	75%
4#	24.4%	75.3
5#	25.5%	79%
6#	20%	74%
7#	26%	68%
8#	21%	71%
9#	22.2%	78.9%
10#	23.3%	76%

Based on the average calculation of the blood glucose control effect between the most priority rehabilitation nursing method proposed and the conventional rehabilitation nursing formula, it is concluded that the blood glucose control effect value of the conventional rehabilitation nursing effect value is 22.6%, and the blood glucose control effect value of the most priority rehabilitation nursing method proposed is 78.2%, which is an increase of 55.6%.

4.2. Comparison of patients' recovery speed

During the experiment, two different rehabilitation nursing methods were also used to work in the simulated environment, and the speed of rehabilitation was analyzed. The comparison curve of the test results is shown in Fig. 5.
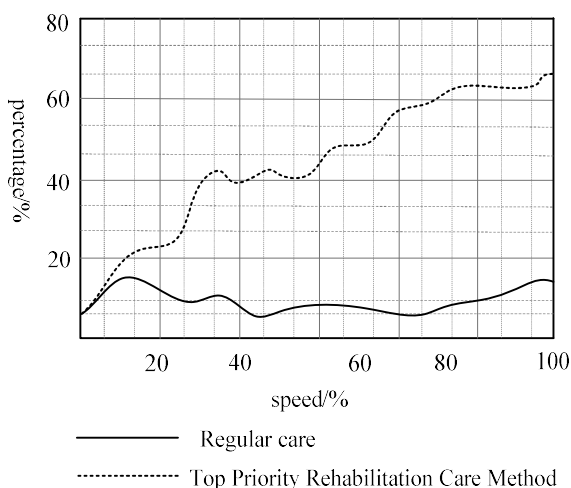

Figure 5. Comparison chart of recovery speed of patients

On one of the most priority rehabilitation nursing method, promote patients recovery rate with routine rehabilitation nursing average processing, it is concluded that regular rehabilitation nursing method to promote patients recovery rate is 19.6%, one of the most priority rehabilitation nursing method to promote patients recovery rate 64.9%, it is concluded that the most priority rehabilitation nursing methods 45.3% patients recovered faster than the conventional rehabilitation nursing methods, accelerated effect is obvious.

5. Conclusions

With the increasing demands of diabetic patients on the selection of rehabilitation nursing methods, the selection of ordinary rehabilitation nursing methods cannot meet the needs of rehabilitation nursing. In view of this phenomenon, this paper proposes the study on the selection of the most priority rehabilitation nursing methods for diabetic patients treated with insulin pump. Based on the construction of the model for the selection of the most priority rehabilitation nursing method for patients with diabetes insulin pump treatment, and the determination of the most priority rehabilitation nursing parameters for patients with insulin pump treatment, the research of this paper is realized. Experimental data show that the proposed method improves the effect of blood glucose control, and has a positive effect on the rehabilitation of diabetic patients, which is worthy of learning and promotion in hospitals across the country.

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