Research Paper

The Roy Adaptation Model Assesses Quality Care for Patients with Angina Study on the Influence of Treatment Compliance and Effectiveness

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To evaluate the effect of quality care on treatment compliance and efficacy of angina patients with Roy adaptation model is the main objective. 70 patients with angina pectoris admitted to a hospital from April 2019 to April 2020 were randomly selected as study subjects and set as the study group. Retrospective analysis was performed on 70 patients with similar angina previously received in this hospital and the patients were set as the control group. Different nursing intervention methods were used to compare the clinical effect of nursing. Symptom check list 90 score and social disability screening schedule score of the study group were significantly better than those of the control group ($p<0.05$) and the difference was statistically significant. Compared with the control group, patients in the study group had lower incidence of complications, fewer angina attacks, shorter duration of attacks, more significant improvement effect of blood pressure and heart rate indicators, higher overall treatment compliance and higher nursing satisfaction ($p<0.05$), with statistically significant differences. Roy adaptive model evaluation of quality care can improve the overall nursing effect of patients, make patients more compliant with treatment and effectively control the progress of the disease, suitable for clinical application.

Key words: Roy adaptive model evaluation, quality care, angina pectoris, treatment compliance, therapeutic efficiency

Coronary heart disease as a very common cardiovascular disease in the clinic is caused by severe lesions in coronary arteries. At present, the prevalence and mortality rate of coronary heart disease still remains high in China, which seriously affects patient's quality of life, accordingly weakens patients working capacity, thereby leading to abnormal social development. Obese people, hypertension patients, diabetic patients and elderly people are all high-risk groups of coronary heart disease. The main clinical symptoms of the disease include paroxysmal angina pectoris, squeezing pain and sudden precordial pain. Once the disease attacks, the patient will suffer from pain and torture unbearable for ordinary person on a long term basis. Most patients will develop resistance during hospitalization due to unfamiliarity to people and things, so that negative emotions like irritability, anxiety will come. Moreover, patients have one sided cognition about the disease, leading to serious decline in treatment compliance, which raises many obstacles for subsequent clinical treatment[1,2]. Routine nursing can only provide nursing of the basic links, which can no longer meet the increasing clinical requirements in contemporary medical environment. To minimize the treatment risk and comprehensively improve the treatment effect, hospitals should improve service quality so that patients receive treatment at ease in the hospital. A variety of nursing interventions should be combined to significantly improve the overall treatment effect. Referring to previous research results, our hospital proposes Roy adaptation model based on excessive clinical experience to evaluate high-quality nursing intervention methods, with excellent clinical results achieved[3]. Based on actual needs in medical treatment, the main viewpoints of the model include: the human body is a complete adaptive system. When stimulated by the internal and external environment, the body's cognitive adjustment system and physiological adjustment system will produce autonomous recognition, so that multiple factors including self-concept, physiological function, interdependence, role function will alter in varying degrees, resulting in the body's ineffective response or adaptive response. The main job of medical staff is to expand the patient's

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adaptation range and minimize the time and frequency of patient's response to the stimulus, thereby triggering adaptive response and enhancing the body's adaptability. High-quality nursing is an extended nursing method based on routine nursing, which takes "people-oriented" as the nursing principle, fully respects the individual's actual needs and strengthens pertinence in nursing intervention to guarantee patients good physical and mental state during hospitalization, enhance patients confidence in treatment and achieve optimal treatment results. This study mainly investigates the effectiveness of Roy adaptation model in evaluation of high-quality nursing intervention methods. 70 patients with angina pectoris admitted to a hospital from April 2019 to April 2020 were selected as the study subjects. The study is reported as follows.

MATERIALS AND METHODS

General information:

70 patients with angina pectoris admitted to a hospital from April 2019 to April 2020 were randomly selected as the study subjects. This study was approved by the hospital committee. All patients were tested and diagnosed with angina pectoris by Electrocardiogram (ECG) and coronary angiography and signed an informed consent. During this period, patients with mental disorders and body language communication disorders were excluded and patients with other serious diseases such as liver and kidney dysfunction, heart disease, mental disease, malignant tumor, etc. were excluded. The patients included in the study were set as the study group to be intervened with Roy adaptation model for assessment of high-quality nursing. Where, there were 42 males and 28 females. Aged 33-68 y old, the patients had an average age of (54.17±3.22) y. With 1~5 y course of disease, the patients had (3.04±0.83) y course of disease on average. There were 14 cases of spontaneous angina pectoris, 22 cases of labor angina pectoris and 34 cases of mixed angina pectoris. A retrospective analysis was made on 70 patients with similar angina pectoris previously admitted to this hospital, who were set as the control group, including 37 males and 33 females. Aged 36~77 y, the patients had an average age of (58.49±2.54) y; with 1~7 y course of disease, the patients had (3.62±0.50) y course of disease on average. There were 17 cases of spontaneous angina pectoris, 23 cases of labor angina pectoris and 30 cases of mixed angina pectoris. In comparison of general information between the study group and the control group, the difference was not statistically significant ($p>0.05$).

Method:

The control group received high-quality nursing intervention and the study group received intervention by Roy adaptive assessment model on the basis of high-quality nursing.

High-quality nursing:

After the patient is admitted to the hospital for treatment, the nursing staff needs to inquire about the patient's basic situation, assist the patient in handling the admission procedures, communicate effectively with the attending physician and the inpatient department based on the patient's medical records in a timely manner and arrange a series of health examinations after the patient is properly settled. Patients will develop negative emotions such as depression, anxiety, nervousness and unhappiness during the diagnosis and treatment period. Medical staff should always observe the patients mental state and symptoms, stabilize the patient's emotions, increase their confidence in treatment and improve treatment compliance. The ward should be regularly cleaned and kept at a suitable temperature and humidity at all times. The patient's timetable should be reasonably arranged to ensure that the patient can have a good rest and feel comfortable during hospitalization. At the same time, medical staff also needs to give more humanistic care to patients, so that patients feel family warmth and adapt to the medical environment faster.

Medical staff should distribute disease knowledge safety manuals among patients and explain the epidemiology, pathogenesis, incentives, risk factors, clinical symptoms, precautions and other knowledge contents related to angina pectoris, thus raising safety awareness of patients. It is also possible to alleviate patient's negative emotions by exemplifying typical cases of successful treatment and adopt tender encouragement policy to make patients positively face the disease. Medical staff should observe the patient's life status at all times, instruct the patients to maintain a healthy lifestyle and regularly invite experts to conduct seminars so that patients have deeper knowledge about angina pectoris, enhance self-care and self-protection capability and independently evaluate potential health factors in them. Medical staff also need give detailed lectures oriented to the patient's situation, so as to prevent complications in patients, improve patient's treatment comfort and reduce treatment risk. At the same time, family members can play a supervisory role and provide timely remediation measures against medical staff's neglected aspects.

Due to long hospitalization, patients will easily develop negative emotions such as anxiety, depression and tension. Some patients unable to bear the pain during the treatment will give up the treatment or voluntarily suspend medication once the condition is stable, resulting in deterioration or repetition of the condition. Hence, the medical staff needs to inform the patients of all relevant information such as drug ingredients, efficacy, medication contraindications and hazards of drug withdrawal to avoid negative impact on the patient's disease control[4,5]. During the patient's drug treatment, monitoring management system should be fully implemented to prevent abnormality in patients. Once physical discomfort occurs in the patient, effective measures should be taken in time to resolve it. Special attention should be given to the physical status of elderly patients. Due to gradually declining physical function, elderly patients will have stronger resistance towards drugs or treatment. Medical staff should strengthen humanistic care, enhance the patient's confidence in treatment and add night inspections to help elderly and inform patients to solve physical and psychological problems in a timely manner, so that the patient's treatment compliance is increased.

Patients need to maintain a light diet during treatment, ensure dietary fiber intake from low-fat, low-salt and low-sugar food, eat more fresh fruits and vegetables and avoid overeating. According to the patient's preferences and physical conditions, exclusive sports training program can be formulated mainly aerobics, tai chi, walking, etc. At the same time, it is also necessary to perform real time dynamic monitoring of the patient's ECG, record the disease information in detail and report it to the attending physician to increase rationality and feasibility in implementation of the nursing program.

Roy adaptation assessment model:

Roy adaptation assessment model involves primary assessment and secondary assessment[6]. Primary assessment covers relatively broad aspects, mainly including four related behaviors: self-concept, physiological function, interdependence and role function. Self-concept refers to the patient's knowledge about angina pectoris and adverse stimulus response during the treatment; role function means the patient suffers from unfelt pain in normal life after the onset of the disease and receives hospital treatment in a strange environment, such a change will produce certain degree of discomfort in the patient, thereby generating resistance to the current state; interdependence means that the patient will have a variety of clinical symptoms after the onset of the disease and various adverse reactions will affect his normal daily activities, so many patients not knowing much about angina pectoris will develop dependence on medical staff. Secondary assessment covers more detailed contents, which divides physiological functions into six parts: body fluid and electrolyte, circulatory function, oxygenation function, sensation, protection and excretion[7]. Assessment of body fluids and electrolytes mainly includes various adverse stimulations and previous history of coronary heart disease; circulatory function assessment includes transport capacity of the lymphatic system and cardiovascular system; oxygenation function assessment includes previous bad behavior and medical history (history of smoking, coronary heart disease, etc.), inherent stimulation, etc.; sensation mainly refers to the patient's cognition and response to various adverse stimulus; protection is to protect the patient's daily activities, rest, etc.; excretion refers to whether the patient's metabolism related functions and rhythm are normal.

Based on Roy adaptation assessment, clinical diagnosis is made for patients and nursing intervention is given according to the patient's actual physical conditions and diagnosis results. Patients with angina pectoris generally suffer from decreased cardiac output. It is necessary to establish ≥2 venous channels to keep the patient's venous channels unobstructed at all times. According to the doctor's instructions, appropriate adjustment should be made in patient's medication of vasodilator drugs, so that the patient's heart after load is alleviated. Patient's adverse reactions after medication should be observed[8]. At the same time, reasonable posture can be taken to reduce the patient's cardiac post load. Meanwhile, the patient's 24 h intake and output volume should be accurately recorded so that medical staff can adjust nursing measures in time according to changes in the patient's physical condition. Indexes like consciousness, blood pressure, breathing, heart rate, pulse directly reflect whether the patient is in good physical and mental state, which should be closely monitored by medical staff. Abnormality in the indexes should be reported to the attending physician in time and assistance should be given to the doctor to provide the patient with the most reasonable nursing measures[9].

In the process of nursing and treatment, patients should maintain a good breathing state at all times and maintain a normal oxygenation index. Therefore, high-flow oxygen inhalation is recommended to inhale oxygen at a rate of 4~6 l/min. At the same time, instruct patients to cough correctly, so that sputum is effectively excreted to

ensure smooth airway[10]. Smooth air circulation should be kept in the patient ward and indoor temperature and humidity should be controlled at an appropriate level. Medical staff should always pay attention to changes in the patient's condition, closely monitor vital signs and actively prevent multiple complications. In view of the possibility of sudden patient death, medical staff should prepare rescue drugs and apparatus in advance.

Observation indexes:

Use Symptom Check List 90 (SCL-90)[11] to evaluate patient's psychological status. SCL-90 contains 90 items reflecting mental symptoms and divides them into 9 factors according to the symptom cluster. The excluded 7 items are taken as the 10th factor. The scoring standard is evaluated according to five levels of; "no", "very light", "moderate", "heavy" and "severe". The total score can reflect severity of the patient's condition and the number of positive items can reflect the scope of self-discomfort, which can also reflect disease severity. The specific content of SCL-90 scale is shown in Table 1.

Social Disability Screening Schedule (SDSS)[12-14] is used to assess the normal degree of patient's various social functions. The SDSS scale contains 10 items, including occupation and work, marriage function, parental function, social withdrawal, social activities outside the family, too few activities within the family, family function, personal self-care, care for the outside world, responsibility and planning. The rating levels are divided into "unsuitable", "serious defects", "some defects" and "no defects", which are respectively scored as 9 points, 2 points, 1 point and 0 point.

Myocardial infarction, arrhythmia and heart failure are the three common complications of angina pectoris. Statistics and comparisons are made on the case number of complications in the study subjects.

Compare the changes in blood pressure and heart rate indexes between the two groups.

Arrange patients for health examination, compare the number of angina pectoris attacks within 30 d between groups and record the duration of attacks in detail.

Evaluate patient's treatment compliance from three aspects of food intake, medication and examination and make pairwise comparisons.

Distribute the special nursing questionnaire of our hospital among the patients and their families at the same time, request them to complete the answer within the specified time and evaluate the patient's satisfaction towards nursing. The rating levels are divided into "very satisfied", "satisfied" and "unsatisfied".

Statistical analysis:

The Cronbach's alpha (α) of evaluation scales such as SCL-90 and SDSS used herein are all >0.92, so the credibility is high. Use SPSS 22.0 statistical software to analyze the derived data, with the measurement data indicated by ($\bar{x}\pm s$) and tested by "t" the count data indicated by n (%) and tested by χ^2, $p<0.05$ indicates statistically significant difference.

RESULTS AND DISCUSSION

Table 2 shows the analysis of patients SCL-90 scores. Scores are compared between the study group and the control group, including number of positive items, somatization, psychosis, hostility, horror. It is found that the study group has superior SCL-90 score to the control group in overall ($p<0.05$) showing statistically significant difference.

TABLE 1: SCL-90 SCALE

No.	Title	Selection
1	Forgetfulness	1, 2, 3, 4, 5
2	Headache	1, 2, 3, 4, 5
3	Dizziness or faint	1, 2, 3, 4, 5
4	Chest pain	1, 2, 3, 4, 5
5	Reduced interest in the opposite sex	1, 2, 3, 4, 5
6	Easily excited or irritable	1, 2, 3, 4, 5
7	Nervousness, not at ease	1, 2, 3, 4, 5
8	Always with unnecessary thoughts in the mind	1, 2, 3, 4, 5
9	Thoughts controllable by others	1, 2, 3, 4, 5
10	Significant decrease in energy, slowdown in activity	1, 2, 3, 4, 5

Note: There are a total of 14 questions. Patients should read the questions carefully, fill them according to their recent actual situation, complete within the specified time and report the score so that condition status can be assessed. Where, the five levels of "no", "very light", "moderate", "heavy" and "severe" have a score of 1, 2, 3, 4 and 5 respectively.

TABLE 2: ANALYSIS OF SCL-90 SCORES OF PATIENTS (x̄±s)

Group	Control group (n=70)	Study group (n=70)	χ^2	p
Depression	3.37±1.42	1.54±0.53	7.246	<0.05
Anxiety	3.68±1.44	1.78±0.39	5.133	<0.05
Horror	3.62±1.43	1.76±0.56	5.352	<0.05
Hostility	3.29±1.44	1.07±0.47	4.758	<0.05
Psychosis	3.34±1.59	1.30±0.73	12.335	<0.05
Somatization	3.58±1.84	1.43±0.53	6.748	<0.05
Number of positive items	36.28±22.61	21.57±16.43	8.276	<0.05
Total score	143.52±30.68	113.96±22.05	4.265	<0.05
Total average score	1.64±0.57	1.25±0.33	17.264	<0.05

The average SDSS score is (4.58±1.66) points in the control group and (1.63±0.54) points in the study group. The study group has lower overall SDSS score than the control group ($p<0.05$) showing statistically significant difference.

In the control group, there are 6 cases of myocardial infarction, 4 cases of arrhythmia, 2 cases of heart failure and the total incidence of complications is 17.14 %. In the study group, there is 1 case of myocardial infarction, 2 cases of arrhythmia, 0 case of heart failure and the total incidence of complications is 4.29 %. The study group has significantly lower incidence of complications than the control group ($p<0.05$) showing statistically significant difference which is shown in Table 3.

The control group has blood pressure of (19.6±2.7) kPa and heart rate of (79.4±13.6) beats/min; the study group has blood pressure of (17.5±2.1) kPa and heart rate of (71.2±10.8) beats/min. The study group has more significant improvement in blood pressure and heart rate indexes ($p<0.05$) showing statistically significant differences, shown in Table 4.

After nursing intervention, patient's number and duration of angina pectoris attacks are recorded in detail. The control group has (6.82±0.53) times/30 d of angina pectoris attacks, with duration of (5.64±0.87) min. The study group has (1.64±0.20) times/30 d of angina pectoris attacks, with duration of (2.63±0.93) min. The study group has significantly fewer angina pectoris attacks and shorter duration than the control group ($p<0.05$) showing statistically significant differences, shown in Table 5.

In terms of food intake, the control group has a treatment compliance rate of 68.57 % (48 cases), while the figure is as high as 91.43 % (64 cases) in the study group. In terms of medication, the control group has a treatment compliance rate of 75.71 % (53 cases), while the figure in the study group is as high as 97.14 % (68 cases). In terms of examination, the control group has a treatment compliance rate of 64.29 % (45 cases), while the figure in the study group is as high as 95.71 % (67 cases). The study group has higher treatment compliance than the control group in overall ($p<0.05$) showing statistically significant differences, shown in Table 6.

The nursing satisfaction of the study group is as high as 95.71 %, which is higher than the control group's 64.29 % ($p<0.05$), showing statistically significant differences, shown in Table 7.

TABLE 3: THE INCIDENCE OF COMPLICATIONS [n, (%)]

Group	Myocardial infarction	Arrhythmia	Heart failure	Total incidence
Control group (n=70)	6 (8.57)	4 (5.71)	2 (2.86)	12/70 (17.14)
Study group (n=70)	1 (1.43)	2 (2.86)	0 (0.00)	3/70 (4.29)
χ^2	6.547	9.594	4.136	12.267
p	<0.05	<0.05	<0.05	<0.05

TABLE 4: ANALYSIS OF CHANGES IN BLOOD PRESSURE AND HEART RATE OF PATIENTS (x̄±s)

Group	Blood pressure (kPa)	Heart rate (beats/min)
Control group (n=70)	19.6±2.7	79.4±13.6
Study group (n=70)	17.5±2.1	71.2±10.8
χ^2	5.012	5.678
p	<0.05	<0.05

TABLE 5: THE FREQUENCY AND DURATION OF ANGINA ATTACKS OF THE PATIENTS ($\bar{x}\pm s$)

Group	Number of angina attacks (times/30 d)	Duration of attack (min)
Control group (n=70)	6.82±0.53	5.64±0.87
Study group (n=70)	1.64±0.20	2.63±0.93
χ^2	8.476	7.548
p	<0.05	<0.05

TABLE 6: ANALYSIS OF PATIENTS TREATMENT COMPLIANCE [n, (%)]

Group	Food intake	Medication	Examination
Control group (n=70)	48 (68.57)	53 (75.71)	45 (64.29)
Study group (n=70)	64 (91.43)	68 (97.14)	67 (95.71)
χ^2	8.526	4.576	5.187
p	<0.05	<0.05	<0.05

TABLE 7: COMPARISON OF NURSING SATISFACTION OF PATIENTS [n, (%)]

Group	Very satisfied	Satisfied	Dissatisfied	Total satisfaction
Control group (n=70)	17 (24.29)	28 (40.00)	25 (35.71)	64.29
Study group (n=70)	41 (58.57)	26 (37.14)	3 (4.28)	95.71
χ^2	-	-	-	12.563
p	-	-	-	<0.05

Coronary heart disease is a common clinical chronic disease with high incidence among middle-aged and elderly people. Severity of the disease determines changes in patient's clinical symptoms and features. Angina pectoris is a common manifestation of coronary heart disease, which can be divided into variant angina pectoris and stable angina pectoris. Once the patient is diagnosed, immediate hospitalization is required. If the best time is missed, it is very likely to cause a variety of complications, threatening life in severe cases[15]. In the process of treatment, patients with angina pectoris need targeted nursing intervention to ensure the overall treatment effect and relieve the patient's pain. It has been verified by clinical experiments that Roy adaptation model can comprehensively analyze the patient's physical condition from many aspects such as psychology, physiology, social culture, etc., effectively combine different nursing intervention methods to trigger corresponding response in the patients, so that patients can adapt to the role change in shorter time, thereby improving patient's treatment coordination. This model can also provide patients with all-round level assessment, so that patients can fully understand their own situation. Plus the medical staff's illustration of relevant knowledge, patients can effectively enhance confidence in treatment and fully cooperate with medical staff in treatment. High-quality nursing intervention is a new clinical nursing method. Based on the accumulated clinical experience, medical staff gives targeted nursing intervention after fully grasping the patient's physical condition and actual condition. "People-oriented" nursing principle is practiced throughout the process to maximally meet patient's actual needs so that nursing practice can achieve the transformation from basic nursing to Omni-directional nursing. Medical staff need to inform the patients of the causes, diagnosis and treatment methods, precautions of angina pectoris etc., so that patients have effectively improved disease cognition and safety awareness, reduce probability of stress response, identify with professionalism of the medical staff, thereby enhancing trust between doctors and patients, comprehensively increasing the degree of patient cooperation and compliance and improving the clinical treatment effect[16,17]. At the same time, medical staff need to intervene in patient's mental health. During the treatment, the patient's body bears in human pain. Long-term treatment will also affect the patient's mental health, leading to a variety of adverse emotions. Medical staff should provide prompt psychological counseling and actively communicate with them, so that patients face the disease optimistically, thus improving their treatment coordination[18].

In this study, Roy adaptation model was used to evaluate high-quality nursing intervention in patients with angina pectoris and analyze clinical intervention effects of high-quality nursing. Scores of positive items, somatization, psychosis, hostility, horror, etc. were compared between the study group and the control group, finding that the study group had higher overall SCL-90 score than the control group ($p<0.05$); average SDSS score was (4.58±1.66) points in the control

group and (1.63±0.54) points in the study group and the study group had lower overall SDSS score than the control group ($p<0.05$), showing statistically significant difference. This indicates that Roy adaptation model as high-quality nursing intervention can eliminate patients negative emotions like irritability, anxiety, reduce pain, improve nursing effects and improve patient's quality of life. A research scholar pointed out that compared with patients undergoing routine nursing, angina pectoris patients receiving high-quality nursing have higher degree of disease cognition and superior scores in items like number and duration of attacks[19]. Onset of angina pectoris is a physiological pain as a result of coronary artery disease induced myocardial ischemia, myocardial infarction, which has certain correlation with coronary artery tension expansion, sharp blood pressure rise and the body's enhanced stress response[20]. Also, relevant factors during nursing and clinical treatment may cause stress response in the body, while psychological factors can inhibit stress response to a certain extent. Therefore, in the process of nursing, patient's ECG changes should be closely monitored. Remediation measures should be timely taken in case of problems to reduce the patient's stress response probability, thereby reducing the patient's risk of disease attack and improving nursing quality[21]. During patient's rehabilitation, medical staff should actively assist family members in supervision and strictly implement the rehabilitation plan, so that the expected prognosis effect can be achieved, thereby reducing the probability of angina pectoris attacks and improving patients quality of life. In this study, after receiving nursing intervention, patient's number and duration of angina pectoris attacks were recorded in detail. It was found that the control group had (6.82±0.53) times/30 d of angina pectoris attacks, with duration of (5.64±0.87) min; the study group had (1.64±0.20) times/30 d of angina pectoris attacks, with duration of (2.63±0.93) min. The study group had significantly fewer angina pectoris attacks and shorter duration than the control group ($p<0.05$), showing statistically significant difference. The experimental results are consistent with the previous research conclusions which shows that Roy adaption assessment model, can reduce the number of angina pectoris attacks and shorten its duration. It also shows that the nursing model produces better intervention effect than single high-quality nursing. Roy adaptation assessment model starts from comprehensive analysis and evaluation of patient's information like family background, disease condition, previous case, etc. Only after the patient's basic information is clearly understood the tailored nursing plan is formulated. During the hospitalization period, the medical staff should pay close attention to the patient's actions, maximally meet the patient's needs, ease the patient's negative emotions, let the patient feel more humane care, thereby improving the patient's treatment coordination and significantly increasing treatment efficiency[22]. The routine nursing model has serious shortcomings. It does not provide nursing based on patients actual situation, so patient's needs are not met, which easily forms contradictions between doctors and patients and leads to frequent doctor-patient disputes. Therefore, it is necessary to formulate a reasonable personalized nursing plan for patients based on the actual situation and relevant theoretical basis, so that the patient's prognosis quality of life is significantly improved. That high-quality nursing can improve the therapeutic effect of angina pectoris[23], effectively shorten the patient recovery time, relieve the patient's negative emotions, improve the patient's treatment compliance and coordination, effectively reduce doctor-patient disputes, thereby help to improve nursing satisfaction. In this study, patient's treatment compliance rate was investigated from three aspects: food intake, medication and examination. According to the results: In terms of food intake, the control group had a treatment compliance rate of 68.57 % (48 cases), while the figure was as high as 91.43 % (64 cases) in the study group. In terms of medication, the control group had a treatment compliance rate of 75.71 % (53 cases), while the figure in the study group was as high as 97.14 % (68 cases). In terms of examination, the control group had a treatment compliance rate of 64.29 % (45 cases), while the figure in the study group was as high as 95.71 % (67 cases). The study group had higher treatment compliance than the control group in overall ($p<0.05$), showing statistically significant difference. At the same time, the nursing satisfaction of the study group was as high as 95.71 %, which was higher than the control group's 64.29 % ($p<0.05$), showing statistically significant difference. It indicates that Roy adaptation model plays a significant role in evaluating high-quality nursing for patients with angina pectoris, which helps to increase patient's treatment compliance rate and nursing satisfaction in a way consistent with the above research conclusions.

This studied the clinical value of Roy adaptation assessment model and high-quality nursing[24,25], finding that both nursing models can reduce complications of angina pectoris, increase treatment compliance, greatly lower patient mortality rate and comprehensively improve the clinical treatment effect, thus worthy of

promotion[26,27]. In this experiment, in the control group, there were 6 cases of myocardial infarction (8.57 %), 4 cases of arrhythmia (5.71 %), 2 cases of heart failure (2.86 %) and the total incidence of complications was 17.14 %; in the study group, there were 1 case of myocardial infarction (1.43 %), 2 cases of arrhythmia (2.86 %), 0 case of heart failure and the total incidence of complications was 4.29 %. The study group had significantly lower incidence of complications than the control group ($p<0.05$), showing statistically significant difference. The control group had blood pressure of (19.6±2.7) kPa and heart rate of (79.4±13.6) beats/min; the study group had blood pressure of (17.5±2.1) kPa and heart rate of (71.2±10.8) beats/min. The study group had more significant improvement in blood pressure and heart rate indexes ($p<0.05$), showing statistically significant difference. The research results are consistent with previous research conclusions, which also demonstrate that combination of the two nursing models can effectively enhance the clinical nursing effect and achieve higher clinical value than any single nursing method.

In addition, medical staff should understand their own responsibilities, strictly follow the doctor's instructions, implement the principle of dietary balance, formulate customized diet plan for the patient to restore the patient's condition while promoting the body's function recovery[28]. Nursing staff should mix daily diet according to the patient's actual condition to maintain balanced intake of nutrients. Patients should eat more foods with high vitamins and high protein, keep light diet, avoid spicy, excitant food, reasonably mix fresh fruits, vegetables, maintain good mental state, increase confidence in recovery and improve unhealthy mental state, which play a good role in improving the patient's condition. In addition to reasonable combination of daily diet, the nursing staff also needs to reasonably arrange the patient's exercise time and exercise intensity, allocate daily training time according to the patient's actual physical condition, mainly aerobic exercise with deep breathing to enhance the patient's lung capacity and required content, which will help to improve patient's condition as proper exercise can restore patient's condition, effectively shorten the recovery time and increase the patient's treatment compliance and nursing satisfaction[29].

In summary, Roy adaption assessment model draws on the advantages of other nursing models, refers to the clinical experiences summarized by abundant doctors, respects the needs of patients to reduce the incidence of complications, reduce the doctor-patient disputes, ensure that patients enjoy high-quality services throughout the treatment, lower service costs, reduce the burden on doctors and patients, thereby improving patient satisfaction. Compared with routine nursing or single nursing mode, Roy adaption assessment model receives better clinical effect in a safe and reliable way. Moreover, it reduces the number of angina pectoris attacks, shortens the attack duration, increases patient compliance and efficiency, demonstrating high clinical application value, which can promote the sustainable development of medical and health undertakings. However, considering constraints in sample number, external environment, time in this study, patient's satisfaction score after implementation of evidence-based nursing demands further exploration and supplementation in the future. Moreover, considering that this study is still affected by many objective factors such as time limit, external environment, sample number, etc., deviation is possible in the research results, leading to lower credibility, so further in-depth research is needed in future work and study.

Acknowledgements:

Hunan province social science subject: Industry demand perspective of nursing professional master degree of clinical practice of specialized subject research of embedded mode (XSP19YBZ183); Hunan province natural subject: comprehensive whole cycle perspective community in our country general nurse post competency modeling and empirical research (2019JJ40212); 2016 in Hunan province education scientific planning project (XJk016BZY034).

Conflicts of interest:

The authors declared no conflict of interest.

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This article was originally published in a special issue,

"Diagnostic and Therapeutic Advances in Biomedical Research and Pharmaceutical Sciences"

Indian J Pharm Sci 2021:83(5)Spl Issue "208-216"