The correlation between subjective well-being and social support in elderly patients after percutaneous coronary intervention

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Abstract: Objective: To analyze the relationship between subjective well-being (SWB) and social support in elderly patients with coronary artery disease in xi 'an after percutaneous coronary intervention. Methods: 307 subjects were investigated by self-designed questionnaire, MUNSH and SSRS. Results: The total score of positive factors of subjective well-being in elderly patients with coronary heart disease after stent implantation was positively correlated with the total score of social support ($P < 0.001$), while the total score of negative factors was negatively correlated with the total score of social support ($P < 0.001$). The main influencing factors of subjective well-being were family per capita monthly income, chronic diseases and social support. Conclusion: Subjective well-being of elderly patients after surgery needs to be improved. Close attention should be paid to their social support to improve their happiness level and quality of life in later years.

1. Introduction

Coronary atherosclerotic heart disease (CHD)has become one of the main causes of death in middle-aged and elderly people in China [1], [2]. Percutaneous coronary intervention can significantly improve the condition of coronary blood flow, alleviate clinical symptoms, reduce mortality and prolong survival time. It is still regarded as the most effective treatment for coronary heart disease. However, PCI is a traumatic procedure and requires changes in drug support and healthy behavior [3]. Subjective well-being (SWB) is an important psychological parameter reflecting individual mental health and overall quality of life, and subjective evaluation and emotional experience of the wholeness of life satisfaction according to its own value criteria [4]. Social support refers to the degree of subjective emotional experience and satisfaction that an individual receives material and spiritual help and is respected [5], [6]. Research has shown that [5] Positive social support can improve patients'adaptation level and promote patients' positive coping with diseases. Therefore, the relationship between social support and subjective well-being is particularly important. Therefore, the purpose of this study is to analyze the subjective well-being of elderly patients with coronary heart disease after stent implantation, and to explore the relationship between social support, so as to provide theoretical basis for improving the quality of life of elderly patients with coronary heart disease.

2. Object and method

The subjects were randomly sampled from July 2018 to January 2019. 307 elderly patients were hospitalized in the First and Second Affiliated Hospitals of Xi'an Jiaotong University after percutaneous coronary intervention. Exclusion criteria:(1) Complicated with Severe Organic Failure, Malignant Tumor and Other Diseases. (2) History of depression, dementia and psychiatry. (3) Those who fail to cooperate and withdraw halfway. Elimination criteria: Questionnaires with errors and omissions.

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2.1. Research Tools

2.1.1The general information questionnaire was designed by the researcher, including 11 items: gender, age, educational level, pre-retirement occupation, marital status, family income per capita, medical payment, chronic diseases, self-care ability, number of stents and length of stent placement.

2.1.2The Subjective Well-being Scale of Memorial University of Newfoundland was redesigned by Albert in 1980[7]. It reflects that the general well-being is in the balance of positive and negative emotions. There are 24 items in the scale. The four dimensions are positive affection, PA, negative affective, NA, positive experience, PE, negative experience, NE. The total happiness score = PA-NA + PE-NE + 24 points. The higher the score, the higher the subjective well-being

2.1.3The social support scale was designed by Xiao Shui Shui [6]in 1986, and then revised according to the actual application of the scale. There are 10 items in the scale. The three dimensions are objective support, subjective support and support utilization. The sum of 10 items is the total score of the scale. The scale has been widely used in many related studies at home and abroad, and has good reliability and validity.

2.2. Quality Control

In order to ensure the validity of the questionnaire, the questionnaire was distributed and collected by the researchers themselves. Before the formal investigation, the consent of the relevant hospitals and departments is obtained. Explain the purpose of the survey and explain the contents, filling methods and matters needing attention. For those with low educational level or unable to complete the questionnaire alone, the respondents will read out the contents of the scale one by one and fill in the answers on their behalf. A total of 310 valid questionnaires were issued and 307 valid questionnaires were collected. The effective recovery was 99.0%.

2.3. Statistical Method

Data were collated and analyzed by SPSS 23.0 statistical software. Metrological data were described by mean±standard deviation; counting data were described by examples and percentages; Pearson correlation analysis was used to analyze the correlation between subjective well-being and social support, with $P<0.05$ as the significant difference.

3. General

3.1. Data of elderly patients with coronary heart disease after percutaneous coronary intervention.

The general information of elderly patients with coronary heart disease after percutaneous coronary intervention is shown in Table 1.

Table.1. general information of elderly patients with coronary heart disease after percutaneous coronary intervention (n = 307).

variable (*n*)	Number of cases (%)	constituent ratio
Gender		
① Male	168	54.7
②female	139	45.3
Age (age)		
② 60-69	166	54.1
③ 70-79	107	34.9
③≥80	34	11.1
Degree of Education		
① Primary school and below	47	15.3
② Junior middle school	128	41.7
③ Senior High School	72	23.5

④ College and above	60	19.5
Marital status		
①married	226	73.6
②Divorce/Separation	15	4.90
③Widowed spouse	66	21.5
income (RMB)		
①＜2000	44	14.3
②2000-2999	75	24.4
③3000-3999	72	23.5
④4000-4999	60	19.5
⑤≥5000	56	18.2
Medical payment method		
①Urban Medical Insurance	247	80.5
②New Rural Cooperative Medical	53	17.3
③At their own expense	7	2.3
chronic diseases (species)		
①1	41	13.4
②2	96	31.3
③3	87	28.3
④≥4	83	27.0
Self-care ability		
①Completely self-care	162	52.8
②Half self-care	138	45
③Disability	7	2.30
Number of supports (number)		
①1	110	35.8
②2	130	42.3
③≥3	67	21.8
Length of stent placement (years)		
①≤1	56	18.2
②1＜years≤3	61	19.9
③3＜years≤5	91	29.6
④＞5	99	32.2

3.2. Subjective well-being score of elderly patients with coronary heart disease after percutaneous coronary intervention

The subjective well-being score of elderly patients with coronary heart disease after percutaneous coronary intervention is shown in table 2. Table 2 shows that the total subjective well-being of 307 patients with coronary heart disease after interventional therapy is (24.16 ±4.73), which is in the middle level. Compared with the national norm [9] (28.7 ±10.72), the negative factors (NA, NE) of patients after operation were higher, and the total score of SWB and its dimensions were significantly different from those of the norm ($P < 0.001$).

Table.2. Subjective well-being scores of elderly patients with coronary heart disease after percutaneous coronary intervention

Dimension	Minimum	Maximum	Actual Score	*t* Value
positive affection	0	8	3.10±1.42	-17.127**
negative affective	0	10	3.80±1.77	11.321**
positive experience	0	8	6.31±1.47	-10.997**
negative experience	0	13	5.23±2.19	7.388**
Total score	15	34	24.37±3.60	-21.030**

Note: ** Indicates P<0.001

3.3. Social support score of elderly patients with coronary heart disease after percutaneous coronary intervention

The scores of social support in elderly patients with coronary heart disease after percutaneous coronary intervention are shown in Table 3. Table 3 shows that the total subjective well-being of 307 patients with coronary heart disease after interventional therapy is (24.16 ±4.73), which is in the middle level.

Table.3. Social support scores of elderly patients with coronary heart disease after percutaneous coronary intervention

Dimension	Minimum	Maximum	Actual Score
Subjective support	13	28	20.49±2.92
Objective support	4	13	9.03±1.83
Support Utilization	3	12	6.67±2.03
Total score	24	50	36.19±5.31

3.4. Analysis of correlation between subjective well-being and social support in elderly patients with coronary heart disease after percutaneous coronary intervention

The results showed that the total scores of positive factors of subjective well-being were positively correlated with the total scores of social support (P < 0.001), while the total scores of negative factors were negatively correlated with the total scores of social support (P < 0.001). See Table 4.

Table.4. The correlation between subjective well-being and social support and scores of various dimensions

Variable	SWB total score	
	r	p
Subjective support	0.575	＜0.001
Objective support	0.657	＜0.001
Support Utilization	0.471	＜0.001
Total score	0.734	＜0.001

3.5. Influencing factors of subjective well-being in elderly patients with coronary heart disease after percutaneous coronary intervention

The SWB was divided into dependent variables, and the general data were taken as independent variables, and multivariate stepwise regression analysis was carried out. Table 5 shows that the main influencing factors of subjective well-being of elderly patients after operation are family per capita monthly income and chronic diseases.

Table.5. factors influencing subjective well-being after percutaneous coronary

influence factor	*B*	*SE*	*β*	*t*	*P*
Constant term	10.670	1.241	—	8.596	＜0.00
income	0.548	0.132	0.210	4.151	＜0.001
chronic diseases	-0.594	0.143	-0.167	-4.147	＜0.001

Note:R^2=0.599,CorrectingR^2=0.595,F=150.92 ,P＜0.001

4. Discussion

4.1. The correlation between subjective well-being and social support in elderly patients with coronary heart disease after percutaneous coronary intervention

The results of this study show that SWB of elderly patients after interventional surgery is significantly correlated with the total score and dimensions of social support, that is, the higher the social support, the higher the subjective well-being level of patients, and vice versa, the lower the SWB, which is consistent with previous research results [8]. Because the old people are in a long period of physical and mental recovery after operation, and there are limitations on activities after operation, the opportunities of social communication are gradually reduced, and the subjective well-being of patients is reduced. Some studies have shown that [9] social support can not only reduce the generation of negative emotions, improve the self-confidence of individuals, but also enhance the ability of healthy behavior and subjective well-being of individuals. Therefore, maintaining a good marital status, economic income and so on ensures the objective support of patients, and family and social members need to pay more attention to the subjective feelings of patients, give more care and support, encourage patients to actively participate in various activities, in order to improve the utilization of social support.

4.2. Influencing factors of subjective well-being in elderly patients with coronary heart disease after percutaneous coronary intervention

Multivariate stepwise regression analysis showed that the final three variables entered the regression model of subjective well-being. From the standardized partial regression coefficient, we can see that the influencing factors were chronic diseases, family per capita monthly income and social support in turn, which indicated that these three variables were important influencing factors of subjective well-being of elderly patients after surgery.

The results show that the more kinds of chronic diseases are combined, the lower subjective well-being is, similar to the results of Chen Fang and other [10] studies. In this survey, at least one chronic disease was found in the elderly patients after operation. 60%-70% of the patients with coronary heart disease were accompanied by hypertension and other diseases. With the increase of age, the physical adaptability of the elderly was declining, which made the disease type increase gradually. It could affect the daily living ability of the patients for a long time. In addition, some patients would have stress disorder in the early stage after operation. Obstacles, thus inducing anxiety, depression and other negative emotions, so the patient's physiological and psychological double burden.

Economic income is the basis of personal material life and an important form of coping with stressors. This study shows that the average monthly income of a family is positively correlated with subjective well-being, which is consistent with the results of Jing Yingying and Rafnsson [11]. This result conforms to Maslow's hierarchy theory of human basic needs. People should first satisfy "physiological needs" in order to pursue a higher level of "self-realization" needs. Because the elderly patients after interventional surgery need to take medicine for a long time and periodic review, so that the patients with low family income are not only limited in choosing drugs and treatment methods, but also feel guilty to their families, so the patients are prone to anxiety and depression, so the level of economic income directly affects the subjective well-being of patients.

5. Summary

With the improvement of living standards, people not only consider material needs, but also pay more attention to spiritual enjoyment. The change of medical model is more in line with the trend of modern life. In the process of medical treatment, medical staff should not only pay attention to the survival time of patients, but also understand the psychological changes of patients. According to relevant studies, negative emotions increase the risk of coronary heart disease by 26%, and the risk of heart death by 48% [12]. Therefore, the relevant departments should improve the "hospital-community-family" care model, so that patients can receive continuing care, and in view of the main influencing factors, implement effective, scientific and systematic education and guidance to improve the well-being and quality of life of elderly patients after coronary artery disease stent implantation.

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