Int J Clin Exp Med 2020;13(6):4337-4345
www.ijcem.com /ISSN:1940-5901/IJCEM0109865

Original Article

Effect of positive psychological nursing intervention on anxiety and depression symptoms in elderly patients with Parkinson's disease

Tingting Wu*, Weikang Huang*, Ying Wang

*Department of Urology, Wuhan Central Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, Hubei Province, China. *Equal contributors and co-first authors.*

Received February 26, 2020; Accepted April 9, 2020; Epub June 15, 2020; Published June 30, 2020

Abstract: Objective: To explore the effect of positive psychological nursing intervention on anxiety and depression symptoms in elderly patients with Parkinson's disease. Methods: After positive and routine psychological interventions were performed separately on patients with Parkinson's disease, the depression and anxiety scores in the two groups were compared, and the improvement of patients' cognitive function was further evaluated. Results: Patients with Parkinson's disease are more likely to suffer from anxiety and depression than other patients ($P<0.05$). After positive psychological intervention in patients with Parkinson's disease, their anxiety and depression scores were significantly lower than those in routine psychological intervention ($P<0.05$). Meanwhile, the improvement of cognitive function in patients with positive psychological intervention was more significant ($P<0.05$). Conclusion: Positive psychological nursing intervention can improve the anxiety and depression symptoms in patients with Parkinson's disease, and improve their cognitive function.

Keywords: Positive psychology, Parkinson's disease, nursing intervention

Introduction

Parkinson's disease (PD) is a neurodegenerative disease, which is mainly characterized by motor dysfunction such as resting tremor, bradykinesia, muscular rigidity, and abnormal posture and gait [1]. Studies have shown that the incidence of age of Parkinson's disease is becoming younger, and with the development of an aging population, the number of patients with Parkinson's disease will further increase [2]. Therefore, clinical nursing research for patients with Parkinson's disease is even more important. Studies have indicated that Parkinson's disease is not only manifested as dyskinesia, but also accompanied by anxiety, depression and cognitive dysfunction. With the progression of the disease, the condition will gradually aggravate [3]. At present, most of the research on Parkinson's disease focus on the drug treatment for the improvement of motor symptoms [4], but more attention needs to be paid to the improvement of psychological aspects. In addition, research on the simultaneous psychological intervention of depression and cognitive dysfunction for patients with Parkinson's disease are relatively rare, and most of them have focused on routine psychological nursing interventions to eliminate negative emotions. There has been not enough attention to positive psychological nursing interventions in order to support patient's own positive qualities and strengths.

Positive psychology is based on improving people's happiness, perception of life, social responsibility, and physical and mental pleasures [5]. It enables people to be happier and look at the world from different perspectives, so as to gain new positive momentum and stimulate their potential in all aspects. The therapy of positive psychological intervention has been applied since the middle of the 20th century. This therapy mainly aims at stimulating the patient's perception of their surroundings to experience the power of positivity, so that the patient can gain new momentum and develop adaptability to adversity [6, 7]. There is relative-

Table 1. Evaluation criteria of HAMD

Evaluation criteria	Score
Major depression	>35
Mild to moderate depression	20-35
Critical depression	8-19
No depression	<8

Note: HAMD: Hamilton depression scale.

ly little research about positive psychological nursing intervention on eliminating negative emotions and improving cognitive function in patients with Parkinson's disease.

Therefore, based on positive psychology, psychological intervention was provided in this study for patients with Parkinson's disease. Meanwhile, the clinical data was collected to guide new nursing plans, alleviate the degree of Parkinson's disease symptoms, reduce the suffering, and provide corresponding practical guidance for clinical practice.

Materials and methods

Comparison between patients with Parkinson's disease and those undergoing physical examination in the same period

General information: This study recruited participants who were treated or examined in Wuhan Central Hospital from September 2018 to July 2019. The research subjects included 116 patients with Parkinson's disease (observation group) and 110 age- and gender-matched patients (control group). This study was conducted with the consent of patients or their families and was approved by Ethics Committee of Wuhan Central Hospital.

Inclusion criteria: Patients met the diagnostic criteria of Parkinson's disease formulated by the Parkinson's disease Society [8]; patients were conscious and able to cooperate in the study; patients (or their families) agreed to participate in this study.

Exclusion criteria: Patients' Parkinson's syndrome was caused by cerebrovascular disease, encephalitis, poisoning, trauma or drugs; patients had previous history of depression and cognitive impairment; patients suffered from other diseases that might cause depression or cognitive dysfunction; patients had severe disease and could not communicate.

Process and method: First, the main social information of the patients, including age, education, family situation and social contact, was collected in the form of questionnaires to identify whether they were eligible for this study.

Second, a total of 5 nurses from the patients' department were selected. Nurses who were engaged in nursing service for more than 5 years with at least a college education, and nurses who underwent the unified training of psychometric skills and passed the written examination could participate in this study. A double-blind method was conducted for information collectors and patients. Nurses and patients were randomly assigned with no clear division in patients. Then, depression, anxiety and cognition were scientifically scored under these conditions.

Evaluation criteria: Hamilton Depression Scale (HAMD) [9, 10]: The criteria for HAMD are made up of 24 items, and each item includes 7 evaluation standards consisting of cognition, weight, sleep, physical, despair, diurnal variation and action. See **Table 1**. Self-assessment Anxiety Scale (SAS) [11, 12]: The SAS consists of 20 symptoms. Each of the symptom is divided into four levels: no or occasionally, sometimes, often and always, which are corresponding to a score of 1-4. The integral part of 1.25 times total score for each item is considered as the standard score. The higher the standard score, the more severe the symptoms. Montreal Cognitive Evaluation Scale (MoCA) [13, 14]: The MoCA mainly utilizes 12 questions about cognition. The total score, naming skills, language, attention, execution and other aspects are evaluated. The total score is 30 points, of which 26 and above is considered normal. The higher the score, the better the cognitive function.

Finally, all data was collected, and the current situation of anxiety, depression and cognitive dysfunction in patients with Parkinson's disease was analyzed. Thus a foundation was provided for the implementation of targeted psychological intervention in the later stages.

Effect of positive psychological intervention on anxiety and depression in patients with Parkinson's disease

Patient data: Patients with Parkinson's disease in this study were screened using the following inclusion and exclusion criteria, and a total of

70 patients participated in this psychological intervention study. They were randomly divided into the control group and intervention group, with 35 cases in each group.

Inclusion criteria: Patients met the diagnostic criteria of Parkinson's disease formulated by the Parkinson's disease Society; depression and anxiety scores were higher than the average of 8.5 and 60 points, respectively. Cognitive function score was less than 26 points; patients did not take relevant antidepressants; education level was appropriate for this study; patients or their families signed the informed consent form.

Exclusion criteria: Patients had no comprehensive complications caused by Parkinson's disease or family history of genetic psychological diseases; patients had brain changes caused by other diseases, such as cerebral infarction, tumors and cerebral hemorrhage; there were no pathological changes in other important organs, such as heart, liver and kidney.

Psychological intervention plan: (1) Normal psychological communication with patients to establish a good physician-patient relationship.

(2) Investigate and collect patients' data and evaluate each patient according to their MoCA score of Parkinson's disease.

(3) Randomly divide patients with Parkinson's disease into the intervention group and control group, with 35 cases in each group. Patients in the intervention group were given positive psychological treatment, and the others in the control group were given routine psychological treatment. Patients in the two groups did not have physical isolation.

(4) Time allocation: Patients received intervention for 8 weeks, for 1-2 times a week and for 20-30 minutes each time. Face-to-face psychological intervention was performed during the hospitalization. After discharge, telephone intervention was mainly used. The implementation of all interventions was performed by the investigator himself.

Positive psychological intervention program [15-17]: (1) Gratitude for three things: At the end of each day, write down three things that were worthy of gratitude today and explain the reasons. Do this every day for a week. Gradually help the patient think deeply, so as to enhance their happiness and reduce the occurrence of negative emotions.

Training Lead: Summarize what happened in the day, and then write down three things that touched you most, such as the small things that happened during family visits, conversations, chats and walks. Then write down your own understanding of the thing and the happen.

(2) Utilization of advantages: Patients with Parkinson's disease still had some hobbies and specialties, though they were ill. Discover these advantages of patients through communication and organize some similar activities based on these activities on a regular basis, so that patients could find their own positive points in the activities and enhance these points to reflect their self-value.

Training Lead: Everyone has their own advantages. In order to have better communication, we had a weekly gathering of ward mates. We hoped that everyone would exert their specialty at the gatherings and conduct various types of communication with each other. For example, concerts, sports meet, reading party, chess games, etc. At different types of gatherings, everyone could actively bring their specialty into play, finding the most suitable aspect, and record the relevant experience.

(3) Taste details: Every bit of life is worth remembering and cherishing. Actively guide patients to recall every little thing in life, learn to taste, and know how to be satisfied. Ask patients to record these pleasures every day and share it with everyone.

Training Lead: Everyday people will encounter a variety of small things, savor each small thing, and record it. These things include walking, chatting, eating, etc. For example, you can savor the bits and pieces of the daily meals with family, including the affection, the joy, and the happiness. Record the happy moments, share them with wardmates, and experience happiness in the ordinary.

(4) Write autobiography: Many patients with Parkinson's disease were frustrated because they couldn't take care of themselves. Hence, they were encouraged to recall their glorious moments and record how they faced frustration and achieved glory in the form of 1-2 pages

of an autobiography. Writing down their past in this way allowed patients to understand the ups and downs of life, gain positive energy, and face the present moment positively.

Training lead: Life is colorful with ups and downs, as well as parts that are smooth or hinder. Experience is a person's most precious wealth. Don't question yourself, write down your autobiography by savoring your experience seriously. Circulate everyone's autobiography to learn about other peoples' experiences and feel the ups and downs, as well as truth of life.

(5) Negative substitution: When people with Parkinson's disease had negative thoughts, they were immediately encouraged to recall things that made them proud or happy to replace the existing negative emotions.

Training lead: Many times, you may encounter unhappiness in life, but at the same time good things will happen. For example, the sun is bright, the music is so wonderful, and the children are so filial. Such happiness deserves attention rather than being blindly immersing yourself in negative emotions. Write down the happiness and read it often.

Routine psychological intervention program [18]: (1) Psychological support: Be kind, communicate with patients actively, care about the patients, enquire about patients' current requirement, and help them as much as possible.

(2) Emotional communication: Sincerely communicate with patients and gain their trust; encourage patients to talk about their psychological experience when they have negative emotions, and express sympathy and understanding to them.

(3) Change adverse thinking: Provide patients knowledge about diseases and health care. Answer their questions patiently, fully and appropriately. Replace their misunderstandings or suspicions thoughts about the disease.

Analysis and evaluation: After 8 weeks, the three main observational indicators of depression, anxiety and cognitive function were scored and compared. In order to clarify the improvement of cognitive function in patients with Parkinson's disease after positive psychological nursing intervention, the comparative evaluation was conducted based on seven aspects of visual space and executive function, naming skills, attention, delayed recall, orientation, abstract ability, and language ability [18].

Statistical analysis

All data in this study were analyzed by SPSS 20.0. First, the data were classified and summarized according to patient's gender, education, and Body Mass Index (BMI) (BMI = weight in kilograms/square of height in meters, less than 18.5 is considered underweight, 18.5 to 23.9 is considered normal, 24 to 26.9 is overweight and above 27 is obese). Chi-square and *P*-values of the above data were calculated with 95% confidence intervals to analyze the differences between the two groups. Second, the summarized data of patient's age, anxiety, depression and cognitive function scores were expressed as mean ± standard deviation (mean ± sd), and t-test was performed. The t-values and *P*-values with 95% confidence intervals were used to analyze the significant differences between the two groups.

Results and analysis

Comparative analysis between observation group (patients with Parkinson's disease) and control group

General information: A 125-point questionnaire was given to patients in each group for real-time surveys. The recovery rate of the questionnaire in the observation group was 92.8%, with total 116 copies returned. The recovery rate in the control group was 88.0%, with total 110 copies returned. The average age of the two groups were 60.89±6.17 years old and 62.0±10.8 years old, respectively. There were no significant differences in age between the two groups by t-test (P>0.05). There were no significant differences in marital status and education between the two groups by chi-square test (P>0.05). See **Table 2**.

It can be seen from **Table 2** that there was no significant difference between the observation group and control group in terms of age, marriage, education and BMI. The course of Parkinson's disease was mainly concentrated in 5-10 years disease course with 3-6 years medical history. Meanwhile, the probability of having

Table 2. Comparison of demographic characteristics between the two groups

Items	Observation group (n=116)	Control group (n=110)	t/χ^2	P
Gender			χ^2=1.81	0.178
Male	55	62		
Female	61	48		
Age (year)	60.89±6.17	62.0±10.8	t=0.93	0.352
Marriage			χ^2=0.34	0.846
Married	86	83		
Unmarried	6	7		
Divorced or widowed	24	20		
Education			χ^2=1.78	0.777
Primary or below	25	19		
Junior high	51	47		
High	22	20		
College or above	18	24		
BMI (kg/m^2)			χ^2=0.29	0.990
Underweight (<18.5)	23	21		
Normal (18.5-23.9)	53	48		
Overweight (24-26.9)	28	30		
Obese (>27)	12	11		
Course of Parkinson's disease (year)				
<5	38			
5-10	63			
>10	15			
Medication history (years)				
<3	29			
3-6	62			
>6	25			
Other concurrent diseases			χ^2=4.98	0.026
Yes	73	53		
No	43	57		

Note: BMI: body mass index.

concurrent diseases in patients with Parkinson's disease was significantly higher than that in the control group (P<0.05).

Comparison of anxiety, depression and cognitive function scores in Patients with Parkinson's disease and age- and gender-matched patients: The results of HAMD, SAS, and MoCA scores showed that the incidence of anxiety and depression in patients with Parkinson's disease was higher than that in the control group. Simultaneously, the cognitive function of patients with Parkinson's disease was significantly lower than that of normal people (all P<0.05). See **Figure 1**.

It can be seen from the MoCA score that the visual space and executive function, attention, language ability and abstract ability in the observation group were significantly lower than that in the control group (all P<0.05). There were no significant differences in other respects. See **Table 3**.

Effect of positive psychological intervention on anxiety and depression in patients with Parkinson's disease

Comparison of anxiety and depression scores in patients with Parkinson's disease after psychological nursing intervention: There were no significant differences in HAMD and SAS scores between the two groups before the psychological nursing intervention (P>0.05). The anxiety and depression symptoms in the two groups significantly decreased after intervention. For

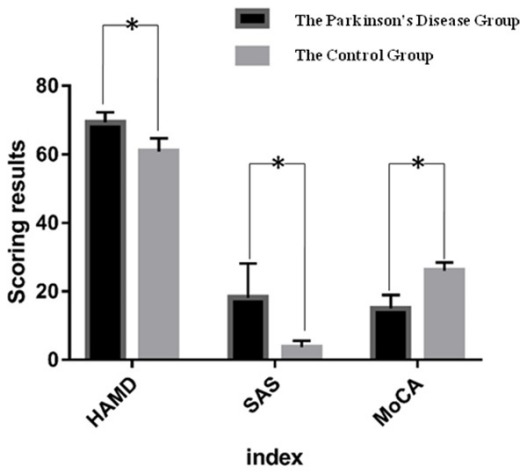

Figure 1. The results of HAMD, SAS, and MoCA scores in the two groups. HAMD: Hamilton depression scale; SAS: self-assessment anxiety scale; MoCA: Montreal cognitive evaluation scale. *P<0.05 was considered as statistically significant.

patients who received positive psychological intervention in the intervention group, the HAMD score (8.62±3.08) was significantly lower than that in the control group (12.58±3.26) (P<0.05). The result was the same in SAS score, which showed that there was significant difference in SAS scores between the two groups (P<0.05). See **Tables 4** and **5**.

Comparison of cognitive function scores in patients with Parkinson's disease between the two groups before and after different psychological nursing intervention: In order to further clarify the effect of positive psychological nursing intervention in patients with Parkinson's disease, MoCA score and its subscores were summarized and compared. Patients in the intervention group had significant differences from the control group in the total MoCA score (P<0.05), with an average score of 27.81±3.42 and 18.04±2.20, respectively. Meanwhile, the language ability and naming skills in the intervention group were also significantly improved compared with those in the control group (P<0.05). However, there were no significant differences between the two groups in abstract ability and attention (P>0.05). See **Table 6**.

Discussion

Senile Parkinson's disease is a disease caused by the chronic progressive deterioration of nervous system, which mainly manifests as hyphedonia, anxiety, irritability, slow response and lack of attention. Therefore, patients' self-pain is obvious, affecting their physical and psychological health [19]. In the treatment of Parkinson's disease, 30% to 55% of patients will suffer from severe psychological illness of anxiety and depression [20, 21]. The main cognitive impairment is the decline of visual space function, and frontal lobe-related function, memory, language and so on [22, 23]. In this study, during the investigation of patients with Parkinson's disease and age- and gender-matched patients, the depression and anxiety in patients with Parkinson's disease were significantly higher, while their cognitive function was significantly lower than those of normal people. The cognitive impairments in patients with Parkinson's disease were mainly reflected in visual space and executive function, attention, language ability, and abstract ability. The results were the same as those of previous studies. Therefore, it is necessary to improve the depression and anxiety symptoms in patients with Parkinson's disease.

Psychotherapy, which aimed to improve the emotion of patients with Parkinson's disease, is based on traditional psychology. The psychological nursing intervention for the disease pays too much attention to negative symptoms such as negativity, morbidity, and pain [24]. On the basis of alleviating distress and eliminating symptoms, there has not been enough attention on encouraging and exerting a patient's positive power. Positive psychology illustrates that psychology should not only study injuries and defects, but also strength and excellent qualities. Treatments not only focus on the repair of injuries and defects, but also on the discovery of human potential and strength [25]. In recent years, based on the established positive psychology clinical system, clinical researchers have carried out more positive intervention practices for patients with depression, which achieved valuable results [26].

This study made a preliminary exploration on positive psychological intervention techniques for improving depression and anxiety symptoms, as well as cognitive function in patients with Parkinson's disease combined with depression and anxiety symptoms. The results showed that routine psychological nursing intervention could effectively relieve anxiety and depression. HAMD and SAS scores in

Table 3. MoCA score in the two groups

Items	Observation group	Control group	t	P
Visual space and executive function	2.40±0.36	5.25±0.85	33.12	<0.001
Naming skills	1.40±0.45	1.45±0.51	0.78	0.435
Attentions	2.50±0.83	5.78±0.79	30.40	<0.001
Delayed recall	3.35±1.67	4.25±1.32	0.50	0.619
Orientation	6.13±0.57	6.05±0.13	1.44	0.152
Abstract ability	0.83±0.46	0.95±0.29	2.33	0.021
Language ability	3.15±0.22	3.29±0.41	3.22	0.001

Note: MoCA: montreal cognitive evaluation scale.

Table 4. Comparison of HAMD score after psychological nursing intervention

Groups	Number	Before nursing intervention	After nursing intervention	t	P
Control group	35	18.47±2.79	12.58±3.26	8.121	<0.001
Intervention group	35	17.93±3.02	8.62±3.08	12.769	<0.001
t		0.777	5.223		
P		0.440	<0.001		

Note: HAMD: Hamilton depression scale.

Table 5. Comparison of SAS score after psychological nursing intervention

Groups	Number	Before nursing intervention	After nursing intervention	t	P
Control group	35	70.45±2.67	57.67±3.29	17.844	<0.001
Intervention group	35	69.36±2.04	30.37±3.99	51.474	<0.001
t		1.92	31.23		
P		0.059	<0.001		

Note: SAS: self-assessment anxiety scale.

Table 6. Comparison of cognitive function scores after psychological nursing intervention

Items	Intervention group	Control group	t	P
MoCA score	27.81±3.42	18.04±2.20	14.21	<0.001
Visual space and executive function	3.23±0.19	3.26±0.14	0.75	0.455
Naming skills	3.11±0.31	2.49±0.39	7.36	<0.001
Attentions	4.03±0.34	3.87±0.41	1.78	0.08
Delayed recall	3.60±1.44	3.26±1.07	1.12	0.266
Orientation	5.74±0.49	5.46±0.94	1.56	0.123
Abstract ability	1.37±0.25	1.30±0.26	1.15	0.255
Language ability	3.05±0.86	1.89±0.82	5.78	<0.001

Note: MoCA: Montreal cognitive evaluation scale.

patients who received positive psychological nursing intervention were significantly higher than those who received routine psychological intervention. Therefore, positive psychological nursing intervention developed for patients with Parkinson's disease, which included three parts including gratitude for three things, utilization of advantages, taste details, autobiography, and negative substitution; was significantly better than routine psychological nursing intervention in reducing anxiety and depression symptoms. The results indicated that positive psychological intervention enabled patients to fully know their own advantages, realize a positive meaning of life, stimulate confidence to conquer disease, mobilize the inherent positive energy, improve psychogenic responses to disease, and relieve depression symptoms. In

addition, the relief of depressive symptoms might help improve patients' compliance with treatment and nursing, and it would have a positive effect on slowing down the deterioration of motor function [27].

Meanwhile, as for cognitive function; the MoCA score for patients with Parkinson's disease, who were given active psychologically intervention, was significantly higher than that in the control group. The improvement of cognitive function was mainly reflected in four aspects of language ability, abstract ability, attention and naming ability. The possible reason of this result was that this study enabled patients to fully realize their positive mental power using positive psychological intervention techniques, mobilized initiative and enthusiasm, which alleviated depression and improved cognitive function. The result was consistent with the findings of Elefant [28].

In summary, positive psychological nursing intervention had positive effects on improving psychological anxiety and depression in elderly patients with Parkinson's disease. The positive psychological treatment plan in this study proposed for patients with Parkinson's disease can be improved in different hospitals, and it can be carried out around all aspects of positive psychology. Additional aspects of positive psychology nursing intervention still need be further explored.

Disclosure of conflict of interest

None.

Address correspondence to: Ying Wang, Department of Urology, Wuhan Central Hospital, Tongji Medical College, Huazhong University of Science and Technology, No. 26 Shengli Street, Jiang'an District, Wuhan 430000, Hubei Province, China. Tel: +86-027-65692902; Fax: +86-027-65692902; E-mail: wangyingwh2h@163.com

References

[1] Yang XC and Liang JF. The current status of the study of the treatment of non-motor symptoms of Parkinson's disease in Chinese and Western medicine. Volkswagen Technol 2018, 20: 43-45, 48.

[2] McDonald C, Winge K and Burn DJ. Lower urinary tract symptoms in Parkinson's disease: prevalence, aetiology and management. Parkinsonism Relat Disord 2017; 35: 8-16.

[3] Rossi A, Berger K, Chen H, Leslie D, Mailman RB and Huang X. Projection of the prevalence of Parkinson's disease in the coming decades: revisited. Mov Disord 2018; 33: 156-159.

[4] Schrag A and Taddei RN. Depression and anxiety in parkinson's disease. Int Rev Neurobiol 2017; 133: 623-655.

[5] Lambert L, Passmore HA and Joshanloo M. A positive psychology intervention program in a culturally-diverse university: boosting happiness and reducing fear. J Happiness Stud 2019; 20.

[6] Rashid T and Al-Haj Baddar MK. Positive Psychotherapy: clinical and cross-cultural applications of positive psychology. In: Rashid T and Al-Haj Baddar MK, editors. Switzerland: Springer, Cham; 2019. pp. 333-362.

[7] Ghavidel Heydari M, Shirazi M and Sanagouyemoharer GR. The effect of positive psychotherapy in test anxiety among Zahedan students with hemophilia. Res Psychother Psychopathol Process Outcome 2018.

[8] Chen YP, Shang HF. 2016 China Parkinson's disease diagnostic standard interpretation. Chin J Pract Med 2017; 37: 124-126.

[9] Ijaz S, Davies P, Williams CJ, Kessler D, Lewis G and Wiles N. Psychological therapies for treatment-resistant depression in adults. Cochrane Database Syst Rev 2018; 5: CD010558.

[10] Primo de Carvalho Alves L, Pio de Almeida Fleck M, Boni A and Sica da Rocha N. The major depressive disorder hierarchy: rasch analysis of 6 items of the hamilton depression scale covering the continuum of depressive syndrome. PLoS One 2017; 12: e0170000.

[11] Liu XC, Tang MQ, Peng XG, Chen K and Dai ZS. Anxiety self-assessment scale SAS factor analysis. Chin J Neuro Ill 1995; 6: 359-360.

[12] Samakouri M, Bouhos G, Kadoglou M, Giantzelidou A, Tsolaki K and Livaditis M. Standardization of the greek version of Zung's self-rating anxiety scale (SAS). Psychiatriki 2012; 23: 212-220.

[13] Jia GW, Yin Y, Yu LH and Song Q. Montreal cognitive assessment scale and simple mental state check are used to assess the cognitive function of Alzheimer's patients. J Rehabil Med Chin 2010; 25:319-321.

[14] Freitas S, Simoes MR, Alves L and Santana I. Montreal cognitive assessment: validation study for mild cognitive impairment and Alzheimer disease. Alzheimer Dis Assoc Disord 2013; 27: 37-43.

[15] Wan X, Chen MZ, Yao XJ, Tan J, Cao R, Wu Y, Sun HF and Lu Q. Effects of psychological care intervention-based on subjective well-being and self-efficacy of diabetics based on positive psychology. J Nurs Adm 2016; 16 : 740-742.

[16] Xu YX and Li XG. The application of positive psychology in psychological care. Chin J Pract Nurs 2008; 24: 69-71.

[17] Yu XH and Yu XP. Analysis of the effects of positive psychology theory in the care of schizophrenia patients. J Clin Nurs Pract (Electronic) 2017; 2.
[18] Lees RA, Hendry Ba K, Broomfield N, Stott D, Larner AJ and Quinn TJ. Cognitive assessment in stroke: feasibility and test properties using differing approaches to scoring of incomplete items. Int J Geriatr Psychiatry 2017; 32: 1072-1078.
[19] Calne SM. Late-stage Parkinson's disease for the rehabilitation specialist: a nursing perspective. Top Geriatr Rehabil 2005; 21: 233-246.
[20] Marinus J, Leentjens AF, Visser M, Stiggelbout AM and van Hilten JJ. Evaluation of the hospital anxiety and depression scale in patients with Parkinson's disease. Clin Neuropharmacol 2002; 25: 318-324.
[21] Yamanishi T, Tachibana H, Oguru M, Matsui K, Toda K, Okuda B and Oka N. Anxiety and depression in patients with Parkinson's disease. Intern Med 2013; 52: 539-545.
[22] Li W, Zhao JH, Sun SG, Zhang JW, Suo AQ and Ma MM. Clinical rehabilitative effect of memantine on cognitive and motor disorders in patients with Parkinson's disease. Zhonghua Yi Xue Za Zhi 2011; 91: 301-303.
[23] Hinkle JT, Perepezko K, Rosenthal LS, Mills KA, Pantelyat A, Mari Z, Tochen L, Bang JY, Gudavalli M, Yoritomo N, Butala A, Bakker CC, Johnson V, Moukheiber E, Dawson TM and Pontone GM. Markers of impaired motor and cognitive volition in Parkinson's disease: correlates of dopamine dysregulation syndrome, impulse control disorder, and dyskinesias. Parkinsonism Relat Disord 2018; 47: 50-56.
[24] Ling WX, Zhou J, Yu WF. The effect of mental nursing in the cognitive function of patients with Parkinson's disease. Nurs Pract Res 2012; 21: 134-135.
[25] Guo XM, Dong LJ, Chen XL, Ding MH and Liang XH. Effect of positive psychological intervention on mental health of relatives caregivers of stroke patients. Int J Nurs 2016; 35.
[26] Chen X, Zhang XW, Zhang YL and Song C. Effect of positive psychological intervention on depression and cognitive impairment in patient with Parkinson's disease. J Nurs 2012; 12: 64-66.
[27] Niu YL. Analysis of the effect of high quality nursing on relieving depression in senile Parkinson's patients. Chin Nurs Res 2019; 33: 1796-1798.
[28] Elefant C, Baker FA, Lotan M, Lagesen SK and Skeie GO. The effect of group music therapy on mood, speech, and singing in individuals with Parkinson's disease-a feasibility study. J Music Ther 2012; 49: 278-302.