Journal of Advances in Medicine Science

Volume 1 Issue 1 · January 2018 · ISSN 2591-7609(print) 2591-7617(online)

Bilingual Publishing Co.

Journal of Advances in Medicine Science is an independent open access journal published by Bilingual Publishing Co., who publishes without boundaries, ensuring our resources are accessible across the globe, in print, digital and online formats.

BILINGUAL PUBLISHING CO.
Pioneer of Global Academics Since 1984

BILINGUAL PUBLISHING CO.
Pioneer of Global Academics Since 1984

Journal of Advances in Medicine Science

Aim and Scope

Journal of Advances in medicine science is an international, fully peer-reviewed journal covering all aspects of medical science, papers include fields of the basic and clinical medicine science research.

The mission of the Journal is to foster and promote multidisciplinary studies, especially the practice, policy and theory of medicine. Its purpose is to take the lead in timely publication in the areas of medicine. Making such information available will ultimately promote the publish and exchange views of new achievements in medicine.

The journal publishes regular papers, short communications, and review articles with a view of providing a focus for new information in all respects of medical science.

The scope of the papers in this journal includes, but is not limited to:

1. Medical theory research
2. Clinical medicine research
3. Medical practice
4. Health care medicine
5. Preventive medicine
6. Nursing medicine
7. Medicine and medicinal chemistry
8. Hospital management
9. Integrated traditional Chinese and Western medicine treatment
10. Health policy
11. Continuing medical education
12. Health management

Bilingual Publishing Co.

E-Mail: contact@bilpublishing.com

Official Website: www.bilpublishing.com

Address: 12 Eu Tong Sen Street #09-169 Singapore(059819)

Journal of Advances in Medicine Science

Volume 1 Issue 1 • January 2018
International Standard Serial Number: ISSN 2591-7609 (Print)
ISSN 2591-7617 (Online)

Contents

Clinical Efficacy and Safety of Joint Butylphthalide and Human Albumin Treatment of PTCI

Jinjian Yang[1] Deqin Geng[2]

1. The Graduate School of Xuzhou Medical University, Xuzhou, Jiangsu, 221003, China

2. Department of Neurology, Affiliated Hospital of Xuzhou Medical University, Xuzhou, Jiangsu, 221003, China

Abstract: Objective: To observe the clinical efficacy and safety of butylphthalide joint human albumin in the treatment of the progress of type in acute cerebral infarction(PTCI). Methods: 120 patients with PTCI in Department of Neurology of Shuyang People's Hospital were used to observe the efficacy. These patients were all treated by routine medicine including anti-platelet, statins, edaravone, ginkgo leaf extract and dipyridamole after admission. According to whether used butylphthalide and(or) human albumin in the treatment of PTCI, the patients were divided into A group 30 cases, B group 45 cases, and C group 45 cases.Patients of group C were given conventional treatment. Group B were given conventional treatment and human albumin injection(5 g, ivgtt, qd, 3 days in a course); Group A were treated with butylphthalide (first, with butylphthalide and sodium chloride injection 100 ml, ivgtt, for 7 d, then with butylphthalide soft capsules 0.2 g, tid, for 21 d), human albumin(5 g, ivgtt, qd, for 3 d) and routine medicine. The change of NIHSS score, Barthel Index, and mRS of three groups respectively during progress,1 week, 2 weeks and 90 days after progress were observed and analyzed. Results: NIHSS score, Barthel Index, and mRS of group A, group B and group C all showed no statistically significant (all $p > 0.05$) on 1 week after treatment; NIHSS score and mRS of group A were both lower than group B and group C on 2 weeks and 90 days after treatment, and both of them showed statistically significant ($p < 0.05$); Barthel Index of group A was higher than group B and group C on 90 days after treatment,it showed statistically significant ($p < 0.05$); The total effective rate of group A(96.7%) > group B(88.9%) > group C(77.8%),showed statistically significant ($p < 0.05$). Conclusions: Butylphthalide joint human albumin treatment of PTCI has good therapeutic effect and safety, it is useful to clinical promotion and further research.

Keywords: Butylphthalide; Human albumin; PTCI

Corresponding Author: Deqin Geng, Professor, chief physician. Tel:18052268197; E-mail: gengdeqin@126.com

Author's Information: Deqin Geng, Professor, chief physician. Department of Neurology, Affiliated Hospital of Xuzhou medical university.Tel:18052268197; E-mail: gengdeqin@126.com. Jinjian Yang, resident doctors, postgraduates, neurology department of Shuyang People's Hospital, Jiangsu Province, China. Tel:15250726357; E-mail: 2327048110@qq.com.

DOI: https://doi.org/10.30564/jams.v1i1.19

1. Introduction

Progressive type of cerebral infarction (PTCI) is a cerebral infarction, which is progressive aggravation of neurological impairment within 6 hours to 1 weeks in patients with cerebral infarction, or the progression of the disease is still after active treatment. PTCI accounts for about 20% to 40% of all ischemic cerebrovascular patients, and the morbidity and mortality are significantly higher than those of stable cerebral infarction, which seriously affects the prognosis of patients with cerebral infarction. Application of butylphthalide injection (Shijiazhuang Pharmaceutical Group dl-3-butylphthalide Pharmaceutical Co. Ltd.) combined with human serum albumin (Wuhan Biological Products Research Institute Co., Ltd.) on the treatment of PTCI in our department to achieve good results.

2. Data and Methods

2.1 General Information

The cases were from 120 pataients with PTCI in neurology department of Shuyang People's Hospital of Jiangsu Province from January 2014 to January 2017. The general clinical data of the patients were age, sex, admission to infarct progression time, the risk factors cerebrovascular such as hypertension, diabetes, smoking and hyperlipidemia, and the blood pressure, blood glucose and blood lipids at admission. The patients were divided into three groups, there were 14 males and 16 females in group A, 20 males and 25 females in group B, 25 males and 20 females in group C.

2.2 The Set of Standard

(1) Between the ages of 18-80; (2) the onset time is with-

in 4.5-48 hours; (3) the diagnostic criteria of all patients were consistent with the standard of PTCI[1]; (4) able to cooperate with the NIHSS score checker; (5) understand and agree with this study.

The exclusion criteria include these: (1) The patients with arterial thrombolysis, embolectomy or fibrinolysis; (2) the patients with cardiac insufficiency; (3) the patients with severe hepatorenal insufficiency, malnutrition and electrolyte disturbances; (4) refusal to cooperate with the NIHSS score checker.

2.3 Treatment Method

All patients were immediately given aspirin enteric-coated tablets 300 mg or clopidogrel hydrogen sulfate tablets 300 mg (aspirin enteric-coated tablets 100 mg, qn + clopidogrel sulfate tablets 75 mg, qd were given the next day and later), atorvastatin calcium (40 mg, qn), alprostadil, edaravone, ginkgo dipyridamole, with regulating blood sugar, blood pressure, rehabilitation and other conventional treatment, and the total course of treatment is 14 days.

Group A was included in 30 patients (14 males and 16 females): given butylphthalide (sodium butyryl phthalate 100 ml, intravenous drip 2 times / day for 1 week, after change to butyl phthalate soft capsules 0.2, 3 times/ Day for 21 days) + human serum albumin (5 g, intravenous drip, 1 times / day for 3 days) + conventional therapy; Group B was included in 45 patients (20 males and 25 females): given human serum albumin (5 g, intravenous drip, 1 time / day for 3 days) + conventional therapy; Group C was included in 45 patients (25 males and 20 females): given conventional therapy.

2.4 Observation Index

The neurological deficits were scored using the National Institutes of Health Stroke Scale (NIHSS), the daily living ability was assessed using the Barthel Index (BI), and the degree of disability and the total effective rate for 90 days of pataints was assessed with Modified Rankin Scale (MRS) at the progress of cerebral infarction, 1 week, 2 weeks, and 90 days after treatment.

2.5 Criteria of Curative Effect

According to the criteria of clinical neurological deficit score in patients with stroke assessment(1995)[2]. Essentially recovered: functional defect score decreased by 46% to 90%; ignificant progress: functional defect score decreased by 18% to 45%; no change: functional defect score decreased by about 17%; deterioration: functional defect score decreased or increased by more than 18% or died. Total effective rate = (basic recovery + significant progress + progress) / total number of cases × 100%.

2.6 Statistical Method

SPSS24.0 statistical software was used used for statistical analysis of all data. The count data were represented in frequency or rate, and χ^2 tests were used between groups; the measurement data were expressed by mean standard deviation (x + s), and the three groups were compared by variance analysis and after two two comparison. The difference of $P < 0.05$ was statistically significant.

3. Conclusion

3.1 Baseline Data of Three Groups of Patients

As shown in Table 1, there was no significant difference in the baseline data (age, sex, time of admission to infarct progression, history of hypertension, history of diabetes mellitus, hyperlipidemia, smoking history and blood pressure, blood glucose and blood lipids) between the three groups, and no statistically significant .

3.2 Comparison of the Scores Between the 1 Week of Treatment and the Progression of the Same Group

There was no significant difference in NIHSS（8.93 ± 3.12，9.69 ± 2.88，9.51 ± 3.29）、BI（34.00 ± 24.93，30.56 ± 19.69，33.89 ± 22.51）、mRS (3.83 ± 1.12,4.09 ± 0.93,3.91 ± 1.14) between these after 1 week of treatment {NIHSS(9.50 ± 3.18, 10.02 ± 2.95, 9.51 ± 3.29); BI（31.00 ± 24.40, 28.44 ± 20.00, 32.33 ± 21.60); mRS(3.97 ± 1.10，4.13 ± 0.94, 3.93 ±1.10)} of patients in Group A, Group B and Group C, indicating that the improvement of neurological deficit symptoms was not obvious in the three groups after 1 week of treatment.

3.3 Comparison of the Scores Between the 2 Weeks and 90 Days of Treatment and the Progression of the Same Group

The scores of NIHSS, BI and mRS of each group were improved, and there were significant differences ($P < 0.05$) (see Table 2), which indicated that the neurologic impairment are improved after 2 weeks and 90 of treatment.

3.4 Comparison of Scores in Different Groups over the Same Period

After treatment for 2 weeks and 90 days, the NIHSS score and mRS score of group A were lower than those of group B and group C ($P < 0.05$). After 90 days of treatment, BI of group A was significantly higher than that of group B and group C ($P < 0.05$) (see Table 2), indicating that the improvement of neurological impairment in group A was better than that in group B and group C after 2 weeks and 90 days of treatment.

3.5 The Total Effective Rate of the Three Groups was Compared after 90 Days of Treatment

The total effective rate of group A (96.7%) > that of group B (88.9%) > that of group C (77.8%), there was statistical difference (2 = 67.601, P < 0.05) (see Table 3).

3.6 Adverse Reaction

There was no definite adverse reactions occurred in the three groups.

Table 1. Comparison of general baseline data between the three groups

Baseline Data	Group A	Group B	Group C	Test Value	P
Age	64.93±9.03	64.47±8.41	64.71±8.01	0.028a	0.072
Sex(Male/Female)	14/16	20/25	25/20	1.211b	0.546
Admission to infarction progression time (hour)	27.10±6.11	24.91±7.17	24.42±6.92	1.487a	0.23
Hypertension(%)	23(76.7)	35(77.8)	37(82.2)	0.421b	0.81
Diabetes(%)	5(16.7)	13(28.9)	13(28.9)	1.754b 1.754b	0.416 0.416
Smoke(%)	9(30.0)	13(28.9)	15(33.3)	0.221b 0.221b	0.895 0.895
Hyperlipidemia(%)	13(43.3)	21(46.7)	20(44.4)	0.407b 0.221b	0.816 0.816
Systolic pressure (mmHg) Diastolic pressure(mmHg)	141.63±9.84 77.53±9.91	143.0±8.88 78.80±9.17	144.0±9.46 76.33±9.22	0.577a 0.736a	0.563 0.481
Blood sugar(mmol/l)	6.10±1.09	6.20±1.16	6.32±1.20	0.33a	0.718
LDL(mmol/l)	2.68±0.70	2.66±0.70	2.63±0.69	0.056a	0.945
CHOL(mmol/l)	5.16±0.50	5.23±0.54	5.16±0.54	0.228a	0.797
TG(mmol/l)	2.22±0.61	2.23±0.62	2.13±0.59	0.36a	0.699

** [a] is the variance analysis F value; [b] is chi-square test χ^2 value; 1 mmHg = 0.133 kpa; LDL: low density lipoprotein; CHOL: total cholesterol; TG: triglyceride*

Table 2. The NIHSS, BI and mRS scores were compared between the 3 groups after treatment

Group and time	Number	NIHSS	BI	mRS
Group A	30			
Progress time		9.50±3.18	31.00±24.40	3.97±1.10
1 week		8.93±3.12	34.00±24.93	3.83±1.12
2 weeks		5.27±2.32*1	62.83±20.95*1	2.43±0.86*1
90 days		2.57±1.91*1	89.83±12.96*1	1.17±0.79*1
Group B		45		
Progress time		10.02±2.95	28.44±20.00	4.13±0.94
1 week		9.69±2.88	30.56±19.69	4.09±0.93
2 weeks		6.76±2.60*1*2	54.56±20.58*1	2.87±0.94*1
90 days		4.22±2.34*1*2	78.56±17.57*1*2	1.82±0.94*1*2
Group C	45			
Progress time		9.51±3.29	32.33±21.60	3.93±1.10
1 week		9.47±3.35	33.89±22.51	3.91±1.14
2 weeks		8.69±3.40*2	39.22±22.21*2	3.62±1.15*2
90 days		7.24±3.22*1*2	51.11±23.21*1*2	2.93±1.10*1*2

** Compared with the progress in this group, [*1]p < 0.05; Compare with the group A at the same time, [*2]p < 0.05*

Table 3. The total effective rate of the 3 groups was compared after 90 days treatment

Group	Total	Recovered	Significant progress	Progress	Unchanged	Total effective rate	χ^2	*p*
Group A	30	6(20%)	23(76.7%)	0(0%)	1(3.3%)	96.7%		
Group B	45	3(6.7)	29(64.4%)	11(24.4%)	2(4.4%)	88.9%	67.601	*<0.05*
Group C	45	0(0%)	4(8.9%)	31(68.9%)	10(22.2%)	77.8%		

4. Conclusion

PTCI is a cerebral infarction, which is progressive aggravation of neurological impairment within 6 hours to 1 weeks in patients with cerebral infarction, or the progression of the disease is still after active treatment. According to the deterioration of neurological impairment in patients with different time, PTCI can be divided into two types, namely early-onset and late-onset. Davalos etc.[3] It proposed that the Scandinavian Stroke Scale (SSS), awareness score or exercise score was reduced by 2 points in 24 hours or a 3-point was reduced in the language score could be judged as early-onset PTCI, which these ratings were resuced in 24 hours to 1 week was classified as late-onset. The early-onset PCI is more common in clinical practice, Davalos etc.[4] It found that the deterioration of neurological function is the result of multi-factor and multiple mechanisms of interaction in the early stage of cerebral infarction. The cerebral ischemia injury excitotoxin hypothesis suggests that when brain perfusion is reduced, glutamate and glycine transporters can be accumulated in the ischemic region or its surrounding area, which excites specific receptors as excitatory amino acids, leading to sodium ions and calcium ions into cells, triggering a series of biochemical and structural changes, for example mitochondrial is injured, microfilament protein is hydrolyzed, membrane phospholipid destruction, oxygen free radical formation and cell death, thereby aggravating and promoting the damage of ischemic brain tissue. Its mutilation rate and fatality rate are very high, which seriously endangers human health. Thrombolytic therapy is the most effective treatment for acute ischemic stroke, the treatment direction is to open the occlusion of blood vessels, save the ischemic penumbra, PTCI super-thrombolysis window time, it is difficult to clear the pathogenesis in the early stage, and the clinical treatment is difficult, there is no normative clinical treatment standards, so to explore a good treatment strategy is particularly important.

Butylphthalide is a kind of new medicine for the treatment of acute stroke in China. The experimental study of related animals shows that[5-10], butylphthalide is a multi-target anti-ischemic medicine, which can repairs the mitochondrial function, inhibits oxygen free radicals, improves the ability of antioxidant enzymes, reduces the infarct size, improves the degree of neurological impairment, increases regional cerebral blood flow, improves microcirculation and energy metabolism depletion of cerebral ischemia, reduces the cerebral edema caused by cerebral ischemia and play a role in antiplatelet agglomeration. At present, Liying Cui etc.[11] have conducted a multi-center, randomized, double-blind, double-opioid and aspirin-controlled study of dl-3-n-butylphthalide soft capsules for acute ischemic stroke. The study showed that the curative effect of butyphthalide was better than that of aspirin in acute ischemia Stroke treatment on day 11 and day 21, which is evidence of intolerance or inability to use aspirin and confirms the therapeutic status of butyphthalide in acute ischemic cerebrovascular disease. Therefore, many Chinese domestic scholars have also carried out the experiment of butylphthalide in the treatment of acute PTCI[12-15], and achieved good results.

Albumin is an important component of human plasma and plays a major role in regulating plasma colloid osmotic pressure. Human serum albumin is mainly used in hypoproteinemia, ascites due to cirrhosis, burns and so on, by increasing the blood osmotic osmotic pressure, albumin can reduce the brain edema and infarct volume. Guohua Liang etc.[16] confirmed its efficacy and safety in treatment of PTCI in the study of PTCI in 130 cases, and found that human serum albumin can effectively reduces blood viscosity, thereby improving the neurological impairment and the prognosishe of patients with PTCI.

This study found that the combination of butyphthalide and albumin in the treatment of PTCI did not show a significant advantage after 1 week of treatment, and showed significant effects at 2 weeks and 90 days after treatment, its NIHSS and mRS were significantly lower than these of single albumin and conventional treatment group, and its BI and ADL was significantly higher than these of single albumin and conventional treatment group, said that the combination of the two drugs can be better improves the symptoms of neurological impairment in patients with PTCI, improves the prognosis, and confirms the value of its clinical treatment.

There was fewer samples were included in this study, and further expand the sample size was needed to obtain more reliable results to provide further evidence for the treatment of patients with PTCI.

References

[1] The Fourth National Conference on cerebrovascular diseases. Diagnostic points of various cerebrovascular diseases[J]. Chinese Journal of Neurology, 1996,29(6):381-3. (in Chinese)

[2] Scoring standard of clinical neurological deficit in stroke patients (1995)[J]. Chinese Journal of Neurology, 1996,06:62-64. (in Chinese)

[3] DaValos A, 1'oni D, 1weiIls F, et al. Neurological deterioration in acute ischemic stroke: potential predictors and associated factors in the European cooperatiVe acute stroke

study(ECASS)I[J]. Stroke, l999,3.0:2631-2636.

[4] Dá valos A, Castillo J. Potential mechanisms of worsening[J]. Cerebrovasc Dis, 1997,7(suppl 5):19-24.

[5] Jie xiong, Yipu Feng. The protective effect of butylphthallde against mitochondrial injury during cerebral ischemia[J]. Acta Pharmaceutica Sinica, 2000,35(6):408-412. (in Chinese)

[6] Xiaoying Zheng, Wei Kong, Shumin Zhao, et al. Effects of 3-n-butylphthalide pretreatment on microvascular architecture and free radical metabolism in hippocampus induced by cerebral ischemia/reperfusion[J]. Tianjin Medical Journal,2015,43(8):867-870. (in Chinese)

[7] Ruxun Huang, Changxin Li, Liyun Chen, et al.. Effects of dl-3n-butyphthalide in the treatment of rat cerebral infarction with middle cerebral artery occlusion[J]. Chinese Journal of New Drugs, 2005,14(8):985-988. (in Chinese)

[8] Ping Zhang. Effects of butylphthalide on HGF expression, cognitive function and cerebral perfusion in patients with acute ischemic stroke[D]. Zhengzhou University, 2016. (in Chinese)

[9] Hairu Ji, Lingwei Kong, Wei Kong, et al. Effects of pretreatment with NBP on brain edema and blood brain barrier in rats during cerebral ischemia reperfusion injury[J]. Journal of Apoplexy and Nervous Diseases, 2014,31(8):698-700. (in Chinese)

[10] Haoliang Xu, Yipu Feng. Effects of 3-n-butylphthalide on thrombosis formation and platelet function in rats[J]. Acta Pharmaceutica Sinica, 2001,36(5):329-333. (in Chinese)

[11] Liying Cui, Shunwei Li, Weiwei Zhang, et al. Effects of dl-3-butylphthalide soft capsules on treatment of acute ischemic stroke: multi-center, randomized, double-blind, double-dummy and aspirin-control study[J]. Chinese Journal of Neurology, 2008,41(11):727-730. (in Chinese)

[12] Xuelan Zhang, Weijing Duan, Yanning Zhao, et al. Observation of curative effect of butylphthalide injection in treatment of progressive cerebral infarction[J]. Journal of Hebei Medical University, 2015,36(5):565-567. (in Chinese)

[13] Huimin Wang, Jianshe Li, Jingjing Li. Efficacy of Butylphthalide and Sodium Chloride Injection in the treatment of anterior circulation progressive cerebral infarction[J]. Chinese Journal of Practical Nervous Diseases, 2016,19(16):133. (in Chinese)

[14] Hanwei Jia, Lei Jiang. Observation of curative effect of Butylphthalide and Sodium Chloride Injection in treatment of progressive cerebral infarction[J]. Chinese Journal of Practical Nervous Diseases, 2016,19(22):48-49. (in Chinese)

[15] Shuqin Zhao, Zhenhao Zhang, Fang Gu. Observation of curative effect of butylphthalide on progressive cerebral infarction[J]. Journal of Apoplexy and Nervous Diseases, 2011,28(6):550-551. (in Chinese)

[16] Guohua Liang, Baoyu Lai, Feng Chen, et al. Clinical efficacy of human albumin in the treatment of progressive cerebral infarction,and its affecting factors[J]. Journal of Bengbu Medical College, 2016,41(8):1061-1063,1067. (in Chinese)

Nursing Care of Patients With Transcatheter Closure of Atrial Septal Defect via Femoral Vein

Qing Li Yaping Bai

Beijing Huaxin Hospital, Beijing, 100000, China

Abstract: Objective: To explore the operative nursing coordination method for the treatment of congenital atrial septal defect (ASD) by transcatheter closure of atrial septal defect via femoral vein. It provides useful experience for the treatment of congenital heart disease. Methods a total of 12 patients undergoing minimally invasive atrial septal defect closure via femoral vein from January 2017 to November 2017 in our department of cardiac surgery were selected as the subjects. All patients received transesophageal ultrasound guided ASD occlusion by femoral vein. The operation and nursing contents include preoperative care, the cooperation of the itinerant nurses, the coordination of the instrument nurses and the postoperative nursing. Results the operation of 12 patients in this group was successful. The diameter of the occluder was 17.1 + 4.5 mm during the operation. The time of tracheal intubation was 2.4 + 0.7 h, from the femoral vein to the sheath tube time was 38.7 + 9.4 min, the occupancy of ICU was 12.5 + 2.6 h after the operation. The average time of hospitalization was 4.5 + 1.8 D. There were 2 cases of shunt 1mm immediately after operation. After 24h reexamination, the shunt disappeared, the heart murmur disappeared in the rest of the patients. No residual shunt and other complications occurred.

Keywords: Transcatheter closure of atrial septal defect via femoral vein; Congenital heart ward septal defect; Esophagus ultrasound; Extracorporeal defibrillation electrode; Operation nursing coordination

Corresponding author: Qing Li, 771261240@qq.com

DOI: https://doi.org/10.30564/jams.v1i1.20

1. Introduction

Atrial septal defect (ASD) is one of the most common congenital heart diseases. In the past, the conventional treatment is mainly through the repair of the direct visual field of surgical thoracotomy and the interventional occlusion under the radiological line. Cardiopulmonary bypass should be established during thoracotomy. The process is complex, the surgical incision is large, the recovery was slow after operation. However, radiation closure can avoid the shortcomings of the above thoracotomy. But there is radiation damage, it will affect the bone marrow, thyroid, the function of the reproductive system. It affects the physical and mental health of the patients. With the development of medical and health services and the growing maturity of cardiac surgery treatment technology, the transcatheter ultrasound guided transcatheter closure of the atrial septal defect has a minimally invasive procedure. There is no need to establish an extracorporeal circulation, no radiation and rapid recovery after operation, it has become a new kind of clinical treatment for congenital atrial septal defect. In this paper, the nursing cooperation of 12 cases of transcatheter ultrasound guided transcatheter closure of atrial septal defect was reported as follows.[1-2]

2. Data and Methods

2.1 General Information

Twelve cases of atrial septal defect were selected from

January 2017 to November 2017 in the heart surgery department of our hospital. 7 of them were male. Five female cases age 2~6 years old. The average age was (3.7 + 0.8) years. Weight 8.4 to 36.7 kg. The average weight was (15.2 + 2.3) kg. All patients or their families in this study signed an informed consent form, and get the approval of the hospital ethics department.[3]

Inclusion criteria: (1) through clinical signs and chest radiography, echocardiography and other examinations were diagnosed as atrial deficiency. It is suitable for the closure of the defect around the defect, and there is no surgical taboo; (2) to remove other malformations that need to be operated on; (3) eliminate serious diseases of other organs.

2.2 Operation Nursing Coordination

2.2.1 Preoperative Preparation

Preoperative preparation: Preoperative 1 D visit children, observe the condition, tell the child or his family to fasting, the time of water prohibition. By talking to patients and their families to understand the mental activity of the patient, patiently answer the question of the patient's attention.[4] Brief introduction of surgical methods, anaesthesia, preoperative attention and other related information, explain the advantages of the surgical procedure to the patients in the previous successful operation cases. Relieving his thoughts, strengthen their confidence in beating the disease, to cooperate with surgery and nursing in a good mental state，regular preparation: esophagus ultrasound, in vitro defibrillation electrode, marking pen，18 G puncture needle, 150 com guide wire, various types of ASD occluder and more than 70 cm conveyor, heparin salt water, the 20 ml syringe is 2. Special preparation: conventional surgical instruments and special instruments for cardiac surgery. Extracorporeal circulation machine, blood recycling machine, the defibrillator and other rescue equipment are in a standby state. The surgical repair was performed at the immediate hypothermia cardiopulmonary bypass (ASD) after the failure of occlusion.

2.2.2 The Coordination of Tour Nurses

The coordination of tour nurses: (1) the operation was arranged in a hundred level to clean operation. The equipment and equipment needed in the preoperative examination are in good condition. The room temperature is controlled at 22-24. Humidity control at 50-60%, the temperature of the circulating heating blanket is set at about 38 C. The warm air heater is warm for the surgical sheet. After the patient entered the operation room, the surgeon, the three parties to the anesthesiologist and the itinerant nurse ask if they are fasting. Water prohibition, give the patient encouragement, help the patient to relieve the bad mood; (2) the establishment of venous channel, help the anesthesiologist to induce general anesthesia, conventional tracheal intubation, ECG monitoring, arteriovenous pressure detection, blood oxygen saturation detection and so on. Take the supine position, turn your head back, make a horizontal line between the mouth and the esophagus, in order to facilitate the entrance of the esophagus ultrasound probe, connect the heart color doppler ultrasound machine. Then the appropriate body pad is placed on the back of the child for easy exposure. Anti pressure pad of bone process pad, avoid the formation of stress damage. Plaster the defibrillation electrode in vitro, electric knife negative plate. The routine urethral catheterization was performed and the temperature of the anus was measured. The surgeon marked the right femoral vein with a mark pen. According to the conventional thoracotomy with sterile single disinfection, the scope of disinfection is from shoulder to neck to knee joint. The notice of ultrasound doctors; the main instrument for operation; the disposable surgical ASD occluder, it belongs to high value consumptive medical supplies, expensive price, before opening the outer packing, the name, model and expiration date of the items are checked again with the operator. Check whether the package is damaged or not. It is unmistakable to open it. Stick the bar code label on the nursing record sheet. We need to start operation in patients with heparin, according to the kilogram weight, 1 mg, and check ACT.[5-6]

2.2.3 The Coordination of Instrument Nurses

The coordination of instrument nurses: In the operation, the articles are placed on the operating table strictly according to the principle of aseptic technique. The device nurses soaked the occluder in the heparin solution (the preparation of heparin solution: normal saline 250 ml + heparin 0.2 ml). All the sheath tubes in the occluder conveying system were injected with 20 ml syringe and injected with heparin liquid. Select the right part of the femoral vein as a puncturing point. The 16 G cannula was punctured by the right femoral vein. Exit needle core, introduction of metal wire, under the guidance of TEE, the right atrium is reached through the femoral vein. When the position is determined, the metal guide wire is extracted. A conveyor that quickly connects the device has been installed to the ASD occluder. Slow down the ASD occluder, the heparin brine was slowly pushed with the 20 ml syringe to serve as a lubricant, the effect of preventing thrombosis. Open the left room surface of the parachute under TEE real time observation. Continue to pull back and release the right side of the occluder. Gently push and pull delivery system "push and pull experiment"

to determine that the position of the occluder is normal and no shift. No residual shunt around the ASD occluder was observed under TEE. Until the surgeon and surgeon agree that the occluder is completely released after the full satisfaction of the surgeon, exit the delivery system. The surgeon pressed the femoral vein puncture point for 15-20 minutes until there is no bleeding. The last aseptic gauze, the sticky elastic bandage is pressurized to cover the puncture point.

2.2.4 Nursing

Nursing: The patient was given the expansion after operation. Anticoagulant therapy, Electrocardiographic monitoring and oxygen absorption, the family members of the children were asked to prohibit severe exercise within 72 h. Hypodermic injection of low molecular weight heparin, oral aspirin. A regular review of cardiac ultrasound, find out the problems to take active and effective measures.[7]

3. Results

The 12 patients in this group were successfully operated on. The diameter of the occluder was 17.1 + 4.5 mm during the operation. The time of tracheal intubation was 2.4 + 0.7 h, from the femoral vein to the sheath tube time was 38.7 + 9.4 min, the occupancy of ICU was 12.5 + 2.6 h after the operation. The average time of hospitalization was 4.5 + 1.8 D. There were 2 cases of shunt with 1mm immediately after operation. After 24 h, reexamination echocardiography showed the disappearance of shunt. The remaining patients did not have peripheral vascular injury, occluder displacement, heart perforation, arrhythmia, and valve injury.

4. Conclusion

The transcatheter ultrasound guided transcatheter closure of the femoral venous atrial septal defect is compared with the traditional method of operation and the interventional catheter closure of the catheter. There are the following advantages: (1) small wound, no damage to the sternum and ribs; (2) without the need of extracorporeal circulation, effective avoidance of ischemia-reperfusion injury; (3) the operation is simple, short time; (4) avoid radiation; (5) less complications after operation, it is safer and better for patients to recover after operation. Shorten the time of hospitalization.[8]

At the same time, the nurses in the operation room have also raised higher requirements. The following points are specific: (1) Strengthening the sense of responsibility, a patient's visit is done before the operation. Understand the physical and psychological condition of the patient. Before the operation, the required instruments and instruments are prepared and the functions are ensured. Be familiar with the procedure of operation, in order to assist the surgeon quickly. (2) Choose the suitable type of occluder according to the patient's condition. The types and properties of the surgeon, nurse, nurse and supporting the mutual verification of occluder conveying device. (3) Strictly enforcing the aseptic operation, when the occluder is opened, it should be used as soon as possible. Don't be exposed for a long time. It is not suitable to paste the high frequency electric knife negative plate on the thigh. It will affect the scope of disinfection. Strengthening the management of surgical instruments, the transmission needs to be fast and orderly. Exposure or collision lasts for a long time. It is easy to cause infection. Prevent surgical complications, the occluder is easy to remain gas because of the particularity of the material. To make sure that the residual gas is emptied when wet, softened and soaked. Prevent the occurrence of a gas bolt. The intraoperative attention is to keep warm.

References

[1] Hu Wang, Jinlin Su, Hong Bian, et al. Minimally invasive off-pump atrial septal defect, ventricular septal defect and patent ductus arteriosus transthoracic occlusion[J]. Ningxia Medical Journal, 2017,39(2):124-126. (in Chinese)

[2] Yu Yu. The application of esophagus echocardiography in interventional occlusion of atrial and ventricular septal defect[D]. Zhengzhou University, 2016. (in Chinese)

[3] Fangzhi Hao, Clinical pediatrics cardiology[M]. Tianjin: Tianjin Science and Technology Press, 1997:169. (in Chinese)

[4] Wenqin Ye, Jianying Zhu. Modern hospital nursing management[M]. Shanghai: Fudan University Press, 2004:361. (in Chinese)

[5] Jiaqiang Guo, Qingyu Wu. Heart surgery nursing[M]. Beijing: People's Health Press, 2003:89. (in Chinese)

[6] Jia Zhai, Fukang Zhang, Feifei Meng. Esophagus ultrasound assisted transthoracic and ventricular transcatheter closure with[J]. World Latest Medical Information Digest, 2016(A4). (in Chinese)

[7] Yazi He, Bo Wang, Jie Lu. Esophagus ultrasound-guided minimally invasive transthoracic closure for the treatment of atrial septal defect in children: operative experience in[J]. Ningxia Journal of Medicine, 2013,35(7):664-665. (in Chinese)

[8] Fen Lin. Transesophageal ultrasound guided percutaneous puncture closure of atrial septal defect in 29 cases combined with[J]. Fujian Journal of Medicine, 2016,38(1):137-138. (in Chinese)

Effect of Continuous Nursing Intervention on Psychological State and Medication Compliance of Patients with Acute Myocardial Infarction after PCI

Dongyan Wei

The First Hospital of Fangshan, Beijing, 102400, China

Abstract: Objective: To explore the effect of continuous nursing intervention on psychological status and medication compliance of patients with acute myocardial infarction after PCI operation. Methods: from February 2013 to September 2016, 102 patients with acute myocardial infarction treated by PCI were selected and divided into two groups, 51 cases in each group according to the different nursing methods. The observation group was added continuous nursing on the basis of routine nursing, while the control group was the usual nursing mode. The mental state of the two groups before and after treatment was evaluated, and the patients were followed up for 6 months after discharge. The compliance of the two groups at 1, 3 and June after discharge was statistically analyzed. Results: before nursing, there was no significant difference in the mental state evaluation between the two groups ($P > 0.05$). After nursing, the mental status of the two groups was improved, while the psychological state of the observation group was better than that of the control group ($P < 0.05$). After 6 months' follow-up, there was no significant difference in the compliance rate between the two groups at 1 months after discharge ($P > 0.05$). In 3 and June, the compliance of the patients in the observation group was better than that in the control group ($P < 0.05$). Conclusion: continuous nursing intervention for patients with acute myocardial infarction after PCI can effectively adjust the unhealthy psychological state of patients, improve medication compliance and promote early rehabilitation of patients.

Keywords: Acute myocardial infarction; Postoperative PCI; Continuous nursing; Clinical effect

Corresponding Author: Dongyan Wei, 13808934544@139.com

Author's Information: Dongyan Wei, female, born in 1972, works in The First Hospital of Fangshan. Address: Fu Sheng Home, Fangshan District, Beijing. Title: Nurse-in-charge, engaged in cardiovascular care for 15 years.

DOI: https://doi.org/10.30564/jams.v1i1.21

1. Introduction

Acute myocardial infarction is caused by acute and persistent ischemic anoxia caused by myocardial necrosis. Data show that[1-2], the proportion of acute myocardial infarction in coronary heart disease mortality is about 69%, and often accompanied by arrhythmia, shock and heart failure, which seriously threaten the life of patients. At present, the application of PCI in the treatment of acute myocardial infarction can quickly open the pathological blood vessels, restore the normal blood supply of the myocardium, save the dying myocardium and improve the myocardial function, and it can effectively reduce the mortality of cardiomyopathy. Studies have shown that[3] is stable after six months of treatment for acute myocardial infarction. After six months, it is all the recovery period after myocardial infarction. If there are psychological factors, poor behavior and bad lifestyle, all of them can induce the risk of adverse cardiac events. Continuous nursing mode is a widely used form of nursing. This mode can provide a more comprehensive guarantee for the rehabilitation of acute myocardial infarction, and the long-term effect is worth affirming.

2. Information and Methods

2.1 General Data

General data: a retrospective analysis of 102 cases of acute myocardial infarction after PCI in patients with clinical data, 52 cases were male, 50 were female, aged 36-72 years old, the average (54.73 + 4.22) years old, into objects are in line with ST segment elevation myocardial infarction or acute non ST elevation myocardial infarction, there were PCI treatment the indications of surgical treatment of perioperative patients without serious complications, postoperative blood flow of TIMI was grade 3. To exclude more than 4 levels of cardiac function, complicated organ dysfunction and poor consciousness, and those with immune system diseases. This study was approved by our ethics committee. After statistical analysis, the P value of patients in the group was over 0.05 after comparing their age structure and sex ratio.

2.2 Research Methods

Research methods: Two groups were treated with conventional nursing, after admission to closely monitor patient vital signs including blood pressure and heart rate changes, observe whether the skin ecchymosis, regular examination. Pay attention to the emotional changes of the patients, strengthen communication with the patients and their families, give them comfort and support, and eliminate the anxiety and irritability of the patients. Instruct the patient to eat a reasonable diet, eat more quality protein, light diet, advise the patient to take care of rest, exercise properly, and ask for a regular review before discharge. The observation group was based on the continuation of the nursing, which was as follows.

2.2.1 Establishment of Continuing Nursing Team

The establishment of continuing nursing team: 1 nurses as leader, and make nursing plans, set up management team including the responsibility of doctors and nurses in 1, charge nurse and health guidance 1, regular review meeting, to summarize the experience of nursing, nursing does not regularly carry out relevant training work.

2.2.2 Continuity Nursing

Continuity nursing: (1) Regular home visits: to understand patients recovered and prescribed medication, recurrent cardiovascular events, and to give guidance and correct, to understand the psychological state of patients with, according to the patients' concern, to give the corresponding solutions to eliminate the adverse effects of emotion, can guide the patients to listen to such as relaxation training music, Tai Chi, encourage family members to participate in, make patients feel the support from family, also can guide the families of some common and simple remedies such as cardiopulmonary resuscitation, just in case. After visiting the hospital, the doctor visits home once a week for 15-30 min. After 3 months, it can be once a month, and then it can be paid 1 times a month. Pay attention to interspersing with the phone call to get the best result in 3 months. (2) Telephone follow-up: after discharge, we need to do 1 times a week in order to better grasp the patient's condition, mental state and problems during recovery, so that patients can get timely feedback and adjust the treatment plan better. Take care to cooperate with home visits. (3) Health education: the need to organize monthly 1 education activities, lectures can be experienced by the expert of Department of Cardiology, can also open exchanges, the difficult problems to explain and inform the patients with acute myocardial infarction, etiology, mechanism of occurrence and development of the new treatment and prognosis of patients. The importance of medication compliance, including the clinical significance and method of taking PCI postoperative antiplatelet agents, statins and other drugs, inform the unreasonable harm to use, and give the record of the patient, good guidance and supervision of the patient to do scientific medicine, taking into the mouth, to avoid the patient clothes or leak clothing, etc. The brochures can not be issued regularly to strengthen self health care and management. (4) Establish a network communication platform: encouraging patients and their families to participate actively in the network communication, pay attention to the latest research dynamic platform for treatment, and according to the patients to account, can timely remind and help patients according to treatment through the platform, such as to remind patients and referral inspection items including blood, liver and kidney function, electrocardiogram.

2.3 Observation Index and Evaluation Standard

1) The psychological state of[4] using the self rating Anxiety Scale (SAS) and self rating Depression Scale (SDS) assessment, each containing 20 items, according to the frequency of 4 grade, value of 1-4, the total sum of scores for each item, the higher the score of anxiety and depression is more obvious.

2) Medication compliance: record the compliance of the patients within 6 months after discharge from the hospital, and evaluate the patients with the self-made compliance questionnaire in our hospital. The contents include regular daily dosing, dose control, frequency and long-term adherence.

2.4 Statistical Method

Statistical method: using SPSS17.0 software for statistical analysis, measurement data ($x + s$), t test, count data%, x^2 test. If $a = 0.05$, $P < 0.05$, the difference was statistically significant.

3. Results

3.1 Analysis of Psychological State

Analysis of the psychological state of the two groups before and after nursing. Before nursing, the two groups had higher mental status scores and no significant difference. After nursing, the mental status scores of the two groups all decreased, and the observation group decreased more significantly. $P < 0.05$., See Table 1.

Table 1. Comparison of SAS and SDS scores before and after nursing in two groups (x + s)Compared Group

Group	SAS Rating		SDS Rating	
	Prenursing	Postnursing	Prenursing	Postnursing
Observation Group（n=51）	46.82±8.02	32.03±5.43	49.88±7.63	34.85±3.03
Compared Group（n=51）	46.59±8.11	39.44±5.09	49.47±7.03	42.01±2.97
t Value	0.063	7.023	0.239	16.802
P Value	＞0.05	＜0.05	＞0.05	＜0.05

3.2 Compliance of the Two Groups

The compliance of the two groups during the treatment period was analyzed. There was no significant difference in medication adherence between the two groups at the 1 month follow-up period, but there was a significant difference in the compliance between the two groups at 3 and 6

months, P < 0.05. See Table 2.

Table 2. the difference of medication compliance during the treatment of two groups was [n (%)]

Group	n	One Month	Three Months	Six Months
Observation Group	51	49 (96.08)	47 (92.16)	44 (86.27)
Compared Group	51	48 (94.12)	40 (78.43)	32 (62.75)
x^2		0.672	5.663	12.308
P		＞ 0.05	＜ 0.05	＜ 0.05

4. Conclusion

Acute myocardial infarction is the main cause of disease and death of coronary heart disease, and the risk coefficient is high. At present, the clinical treatment is mainly through coronary intervention. If treated in time, it can quickly open the infarcted blood vessels, relieve infarcted myocardium and improve the prognosis of patients. It is one of the main means to treat coronary heart disease. It has been reported that[5], the universal compliance compliance situation of poor myocardial infarction after PCI patients after discharge, which leads to the disease treatment effect is not very satisfactory, the possible reasons and patient awareness of PCI treatment after myocardial infarction is low and the lack of related knowledge of medication. Other studies have pointed out that[6], acute myocardial infarction patients have different degree of anxiety, depression and other psychological disorders. The practice research pointed out that the bad psychological emotions can aggravate the platelet aggregation caused by abnormal blood pressure and blood lipid, and induce atherosclerosis, myocardial infarction recurrence and other serious adverse events, while myocardial infarction disease itself can increase depression in patients with.[7] Therefore, we need to pay more attention to the nursing of PCI after myocardial infarction, and eliminate the aggravating factors, such as poor medication compliance and mental disorders, so as to improve the prognosis of patients.[8]

Continue nursing care after hospitalization following is an effective extension mode at the end of,[9] the hospital nursing can continue to provide effective care guidance for patients, through regular home visits, telephone follow-up and organizing educational activities, let patients in the recovery period to solve problems in a timely manner, and improve the patients cognition of the disease and the treatment of PCI the prescribed medication on time and maintain a good attitude and way of life, accelerate the rehabilitation of patients, to reduce the incidence of adverse events.[10]

The results of this study, before nursing, the results of the SAS and SDS scores of the two groups were not significantly different, and there were different degrees of psychological disorders. After nursing, the psychological state of two groups of evaluation were improved, the observation group SAS score and SDS score decreased more significantly, P < 0.05. after discharge follow-up, the two groups in the 1 months after discharge, there was no significant difference between the two groups of medication compliance, great part has good compliance, and in 3, 6 in November, the compliance of the observation group was significantly better than the control group, P < 0.05. shows that the continuity of care plays a positive role in the rehabilitation treatment of acute myocardial infarction after PCI, in improving the mental state of patients, medication at the same time, to ensure the clinical effect of rehabilitation, is worthy of promotion.

References

[1] Maritino R, Foley N, Bhogal S, et al. Dysphngia after stroke:incidence,Diagnosisand pulrnonary complications[J]. Stroke, 2015,36:2756-2763.

[2] Yiran Li, Yanping Liu, Ying Wu, et al. Medication compliance and its influencing factors in patients with acute coronary syndrome after intervention[J]. Nursing Practice and Research, 2016,13 (2):1-3. (in Chinese)

[3] Min Hu, Hongying Shao. Effect of continuity nursing on quality of life and mental state of patients with acute myocardial infarction after PCI operation[J]. Chinese Medical Ethics, 2016,29(2):243-245. (in Chinese)

[4] Yuxiang Feng, Qianru Li, Zhang Mengshuang, et al. Effect of continuous nursing intervention on the quality of prognosis of coronary artery disease interventional therapy[J]. Clinical Study, 2016,24(3):160-161. (in Chinese)

[5] Tianhong Li. Application of medical equipment after percutaneous coronary intervention in patients with acute myocardial infarction[J]. Medical Equipment, 2016,29(16):184-185. (in Chinese)

[6] Xin Liang, Yinling Qu. Observe the effect of continued nursing[J]. Chinese Medical Herald on Coronary Intervention for Acute Myocardial Infarction Patients, 2016,13(1):159-162. (in Chinese)

[7] Huihong Zhang, Qing Liu, Sufang Mao, et al. Effect of continuous nursing intervention on mental state and medication compliance of PCI patients after acute myocardial infarction[J]. Chinese Modern Doctor, 2017,55(30):153-155+160. (in Chinese)

[8] Ying Shao. Qinghua nursing intervention on acute myocardial infarction patients with PCI postoperative psychological status and the influence of medication adherence of[J]. Medical Equipment, 2017,30(20):180-181. (in Chinese)

[9] Yingxia Gong. Effects of continuous nursing intervention on psychological state and drug compliance of patients with acute myocardial infarction after percutaneous coronary intervention[J]. Anhui Medicine and Pharmaceutical Journal, 2017,21(04):765-768. (in Chinese)

[10] Qiuying Lou, Guohe Feng, Xingwei Zhang, et al. The effect of continuous nursing intervention on the psychological state and medication compliance of patients with acute myocardial infarction after PCI[J]. Chinese Nursing Management, 2014,14(01):45-48. (in Chinese)

Research and Application of Multi-Dimensional and Three-Dimensional Teaching in Geriatric Nursing Teaching in the Context of Mass Entrepreneurship and Innovation

Xiuxian Mo

Guangxi University of Science and Technology, Liuzhou, Guangxi, 545006, China

Abstract: Purpose: Study the specific application effect of multi-dimensional and three-dimensional teaching in Geriatric Nursing teaching in the context of mass entrepreneurship and innovation. Methods: Respectively select 80 nursing undergraduates of 2015 and 80 nursing undergraduates of 2014 in our school as the research object of the experimental group and the control group. In terms of Geriatric Nursing teaching, nursing students in the control group adopt traditional classroom teaching methods to carry out, while students in the experimental group adopt multi-dimensional and three-dimensional teaching in the context of mass entrepreneurship and innovation. Then observe and compare the geriatric nursing knowledge scoring as well as theory and practice assessment results in the two groups taught with different methods. Results: It's obvious that the scoring of nursing students in the experimental group is higher than those in the control group in respect of geriatric nursing knowledge, and statistical significance exists in the between-group differences ($P < 0.05$). The nursing students in the experimental group perform obviously better than those in the control group in terms of the results of theory, practice and comprehensive assessment as well as total score, and statistical significance exists in the between-group differences ($P < 0.05$). Conclusion: Implementing Geriatric Nursing teaching for higher education nursing undergraduates with multi-dimensional and three-dimensional teaching in the context of mass entrepreneurship and innovation can remarkably improve nursing students' cognitive level in geriatric nursing as well as their mastery degree of theoretical, practical and comprehensive knowledge. Thus, the multi-dimensional and three-dimensional teaching mode in the context of mass entrepreneurship and innovation makes 80 nursing undergraduates of 2015 in our school direct beneficiaries, which could be popularized and applied in medical colleges.

Keywords: Mass entrepreneurship and innovation; Multi-Dimensional and three-dimensional teaching; Geriatric Nursing

Corresponding Author: Xiuxian Mo, 13978098891, Guangxi University of Science and Technology, Yiyuan, Xingjia·Qinghuafang, No. 68, Guizhong Avenue, Liuzhou City, Guangxi; Email, 1754344380@qq.com

Fund Project: 2017JGB296

DOI: https://doi.org/10.30564/jams.v1i1.22

1. Introduction

At the present stage, Chinese population has entered the aging stage. With the increase of the elderly population, higher requirements are put forward against nursing institutions for the aged as well as geriatric nursing talents. Besides, the context of "mass entrepreneurship and innovation" completely coincides with the concept of deepening innovation and entrepreneurship education reform in colleges and universities put forward by Premier Li Keqiang in 2014, which causes the graduates of various colleges and universities face serve employment situation as well as market competition pressure. However, graduates from colleges and universities can also achieve self-worth through entrepreneurship and innovation as well as better adapt to market demands. In this context, scientific and effective education mode[1] should be taken under the general background of population aging as well as mass entrepreneurship and innovation to enhance higher education nursing students'

ability and level in Geriatric Nursing and prompt them to be excellent nursing talents in the context of mass entrepreneurship and innovation. To a certain extent, multi-dimensional and three-dimensional teaching mode can cultivate good theoretical and practical knowledge and ability for higher education nursing talents, enhance nursing students' overall quality and prompt them to be a member in the group of entrepreneurship and innovation in the context of mass entrepreneurship and innovation[2]. To this end, this research is carried out to explore the specific application effect of multi-dimensional and three-dimensional teaching in Geriatric Nursing teaching in the context of mass entrepreneurship and innovation. Eighty nursing undergraduates of 2014 and Eighty nursing undergraduates of 2015 are respectively selected as the research objects in the control group and the experimental group. The specific research report is as follows.

2. Data and Methods

2.1 General Data

This research respectively selects 80 nursing undergraduates of 2015 and 80 nursing undergraduates of 2014 in our school as the research object of the experimental group and the control group. The research objects of the experimental group include 18 boy students and 62 girl students, whose age is from 17-21 and average age is (18.33 ± 1.85). The research objects of the control group include 14 boy students and 66 girl students, whose age is between 17-20 and average age is (18.03 ± 1.24). All the research objects are admitted in a unified way after participating in the college entrance examination, and all of them are the nursing undergraduates of 4-year higher education. The research objects of both groups have no significant difference in the general data such as gender and age, with no statistical significance ($P > 0.05$) but with comparability.

2.2 Method

For the nursing students in the control group, Geriatric Nursing teaching is carried out by adopting the traditional classroom teaching method, including the contents of nursing fundamentals, clinic nursing, humanistic ethics, health education and nursing practice.

For the nursing students in the experimental group, the multidimensional teaching method in the context of mass entrepreneurship and innovation is carried out to receive Geriatric Nursing teaching, and the specific teaching method is as follows.

First, make multi-dimensional and three-dimensional teaching target clear[3]. Fully comprehend the heuristic teaching idea and mix the teaching methods such as situational teaching, empathy cultivation, case teaching and clinic internship together, and take students as the teaching objects to strive to cultivate a batch of professional nursing talents having the innovation ability and entrepreneurship ability in the context of mass entrepreneurship and innovation.

Second, build the multi-dimensional and three-dimensional teaching system. Develop the teaching mode[4] of Geriatric Nursing suitable for the nursing students of our school by exploring the science, and the main multi-dimensional and three-dimensional teaching methods mainly include:

1) Micro-course teaching. Micro-course teaching mainly takes video as the teaching carrier to record the teachers' teaching process inside and outside class and especially the key points, difficulties or doubtful points in teaching, and then the students can autonomously play and study the wonderful teaching activity process. Generally, the videos are suitable to be 5-15 min.

2) Multimedia courseware. When the multimedia courseware is adopted for Geriatric Nursing teaching, the specific requirements for the teaching outline as well as demands on the actual teaching content shall be analyzed and mastered and then the stricter teaching design shall be conducted to form the teaching courseware in the way of multimedia expression on this basis. The multimedia courseware teaching is featured by certain verisimilitude, intuition and colorful nature, and it can make the traditional, relatively complex and boring teaching process simple and charming and can further improve students' learning interest and achievements.

3) WeChat teaching. WeChat is a free application program for instant communication services produced by Tencent Company, which is able to support the transmission and exchange of information in multiple forms such as picture, word, video as well as audio and belongs to the shared streaming media. Applying WeChat teaching method in Geriatric Nursing can make teachers become friends of students and develop the interactive relation by adding friends or following the public platform in the functions such as message push, friend circle and public platform provided by WeChat so as to share the teaching contents

in WeChat. The students can autonomously download and read the learning resources inside or outside class, and they can discuss and exchange at any time. WeChat teaching is a breakthrough against the traditional classroom teaching mode.

4) University town space teaching. University town belongs to an online virtual town; it takes the online distance education as the core and has many functions such as comprehensive media, instant communication, online office, personalized digital library and comprehensive distance teaching; it can be deemed as the real and virtual university community platform[5]. Applying the university town space in Geriatric Nursing teaching can release various teaching resources in university town space, and students can complete their homework, begin, answer questions or conduct discussions online, which is in favor of consolidating and exploring the learned knowledge.

2.3 Observation Index

Observe the scoring situations in geriatric nursing knowledge of the nursing students of both groups after adopting different teaching methods, and the geriatric nursing knowledge mainly includes geriatric nursing basic principles, daily life care for the elderly, medication safety care for the elderly, clinic features of common problems of the elderly, nursing of the common problems of the elderly as well as hospice care[6]. All the scores are obtained from survey of Geriatric Nursing Knowledge Questionnaire prepared by our school; wherein, 0 point is for not knowing the answer or incorrect answer, and 1 point is for correct answer.

Observe the theory and practice assessment achievement situations of the nursing students of both groups after adopting different teaching methods, including theory assessment achievement, practice assessment achievement and comprehensive assessment achievement. All the scores are got by the closed-book exam assessment after the courses for both groups are finished; the total score is 100 including 35 points of theory assessment, 35 points of practice assessment and 30 points of comprehensive assessment.

2.4 Statistical Processing

All the data in this research are processed by adopting SPSS19.0 statistical software; the measurement date is expressed in mean (±) and standard deviation ($\bar{x}$ ±s), and comparison between groups is tested by adopting (t). If P < 0.05, it means the difference is of statistical significance.

3. Results

3.1 Comparison of Scoring in the Geriatric Nursing Knowledge of Nursing Students in the Control Group and the Experimental Group

Table 1. Scoring in the Geriatric Nursing Knowledge of Nursing Students in the Control Group and the Experimental Group (Score, n = 80, $\bar{x}$ ±s)

Geriatric nursing knowledge	Control group	Experimental group	t	P
Geriatric nursing basic principles	2.63 ± 0.72	3.94 ± 0.74	8.1102	< 0.05
Daily life care for the elderly	2.61 ± 0.83	4.64 ± 1.06	8.0352	< 0.05
Medication safety care for the elderly	2.55 ± 0.75	3.98 ± 1.01	8.0461	< 0.05
Clinic features of the common problems of the elderly	2.52 ± 0.76	3.97 ± 1.05	8.0064	< 0.05
Nursing of common problems for the elderly	2.56 ± 0.70	3.78 ± 0.96	8.0611	< 0.05
Hospice care	2.44 ± 0.68	3.69 ± 0.95	8.1540	< 0.05

It can be found from the relevant data in Table 1 that in this research, the nursing students in experimental group get higher scores than the nursing students in control group in the geriatric knowledge, and statistical significance exists in the between-group differences (P < 0.05).

3.2 Comparison of Theory Assessment and Practice Assessment Results of Nursing Students in the Control Group and in the Experimental Group

Table 2. Theory Assessment and Practice Assessment Results of Nursing Students in the Control Group and in the Experimental Group ($\bar{x}$ ±s)

Group	n	Theory assessment result	Practice assessment result	Comprehensive assessment result	Total score
Control group	80	26.33 ± 2.47	24.13 ± 2.26	22.81 ± 2.42	73.18 ± 5.22
Experimental group	80	31.21 ± 2.36	25.84 ± 2.93	26.08 ± 1.57	84.65 ± 3.95
t		8.263	9.145	8.454	11.249
P		< 0.05	< 0.05	< 0.05	< 0.05

It can be found from the relevant data in Table 2 that in this research, nursing students in the experimental group are obviously superior to nursing students in the control group in theory assessment, practice assessment and comprehensive assessment results as well as total score, and statistical significance exists in the between-group differences ($P < 0.05$).

4. Discussion

Currently, geriatric nursing has become key teaching contents for higher education nursing major in the medical colleges mainly because population aging has become an outstanding phenomenon in China's social development[7]. In terms of professional education of geriatric nursing, China's research started relatively late, so further exploration in terms of Geriatric Nursing teaching methods still needs to be carried out. As the background "mass entrepreneurship and innovation" forms, multi-dimensional and three-dimensional teaching has gradually been approved by Geriatric Nursing teaching[8]. The main reasons lie in that multi-dimensional and three-dimensional teaching mode can closely link the contents in multiple aspects such as the theory system, practice teaching, comprehensive quality and teaching team construction in terms of geriatric nursing together, and that it can make students generate the higher enthusiasm to consolidate and explore the nursing knowledge by themselves and can excise the students' innovation thinking and practical operation ability; therefore, it is in favor of urging nursing students to become the talents having the innovation and entrepreneurship ability in the context of mass entrepreneurship and innovation and also in favor of promoting the professional level and quality of geriatric nursing.

In this research, multi-dimensional and three-dimensional teaching mode in the context of mass entrepreneurship and innovation is mainly adopted for nursing students in the experimental group, while only the traditional classroom teaching mode is adopted for nursing students in the control group. The results show that the scoring of nursing students in the experimental group is obviously higher than those in the control group in respect of geriatric nursing knowledge, and statistical significance exists in the between-group differences ($P < 0.05$). The nursing students in the experimental group perform obviously better than those in the control group in terms of the results of theory, practice and comprehensive assessment as well as total score, and statistical significance exists in the between-group differences ($P < 0.05$).

To sum up, implementing Geriatric Nursing teaching for higher education nursing undergraduates with multi-dimensional and three-dimensional teaching in the context of mass entrepreneurship and innovation can remarkably improve nursing students' cognitive level in geriatric nursing as well as their mastery degree of theoretical, practical and comprehensive knowledge. Thus, the multi-dimensional and three-dimensional teaching mode in the context of mass entrepreneurship and innovation makes 80 nursing undergraduates of 2015 in our school direct beneficiaries, which could be popularized and applied in medical colleges.

References

[1] Haihong Zhang. Practical Exploration on "Multi-dimensional and Three-dimensional Interaction" Teaching Mode[J]. Literature Education, 2013,07(03):139-140. (in Chinese)

[2] Kai Kang, Donghui Xu, Wenpu Guo, et al. Application of Three-dimensional Method in Theory Teaching of Secure Communications and Communication Countermeasure Technology[J]. Education and Teaching Forum, 2017,01(02):158-159. (in Chinese)

[3] Yadong Zhou, Mingxian Guo, Yan Cui, et al. Application of Thinking-aloud Discussion Method in Geriatric Nursing Teaching[J]. Chinese Nursing Research, 2013,20(11):2166-2167. (in Chinese)

[4] Guifang Guo. Geriatric Nursing[M]. Beijing: People's Medical Publishing House, 2012,9:13. (in Chinese)

[5] Fang Zhu. Research Progress in Humanistic Care Nursing in the Geriatric Wards of Community[J]. Chinese and Foreign Women Health, 2011,19(2):97-98. (in Chinese)

[6] Qun He, Huqiong Pu, Renrong Gong, et al. The Application of Nursing Humanistic Care in Senile Heart Valve Patients during Perioperative Period[J]. West China Medical Journal, 2008,23(5):1168. (in Chinese)

[7] Jianping Sun, Heinv Yang, Hongmei Li. Exploration on "Geriatric Nursing" Teaching Mode[J]. Chinese Journal of Nursing Education, 2007,4(4). (in Chinese)

[8] Chunling Yang, Ruiming Zhang. Clinic Nursing Pathway[M]. Beijing: Military Medical Science Press, 2009. (in Chinese)

Research on Influence of Clopidogrel on Life Quality in Patients with Transient Ischemic Attack and its Influencing Factors

Lanbo Chen Xiaohong Gu Bo Dong

Department of Health Management, Institute of Field Surgery, Daping Hospital, Third Military Medical University, Chongqing Municipality, Chongqing, 400042, China

Abstract: Purpose: To analyze the basic situation and health related quality of life (HRQOL) results of patients with transient ischemic attack (TIA), and to study the influencing factors of health related quality of life in patients receiving clopidogrel. Method: Divide the TIA patients into clopidogrel group, aspirin group and untreated group. Measure HRQOL scores of TIA patients using the short form 36 questionnaire (SF-36) scale and analyze influencing factors of HRQOL with one-way ANOVA and multivariate stepwise linear regression statistical methods. Results: The differences of HRQOL scores among three groups are of statistical significance ($F = 4.29$, $P = 0.00$). There is no difference in HRQOL score between clopidogrel group and aspirin group ($t = 5.35$, $P = 0.00$), but HRQOL scores of clopidogrel group and aspirin group are higher than those of the untreated group ($t = 6.14$, $P = 0.00$; $t = 5.16$, $P = 0.00$). The HRQOL scores of clopidogrel group are positively correlated with diet, exercise, gender and family harmony ($P < 0.05$), but negatively correlated with diabetes, hypertension, smoking, drinking, hyperlipidemia, age, career and ABCD2 score ($P < 0.05$). Conclusion: TIA patients who received secondary prevention with clopidogrel and aspirin show better life quality results than those who did not. There were many factors influencing clopidogrel's treatment effect. Paying attention to middle-aged and elderly, the obese, mental workers and female TIA patients, teach TIA patients to quit smoking, drinking and eating low-salt and low-fat food, actively treating their hypertension, hyperlipidemia and diabetes and laying emphasis on psychological counseling and exercise can significantly improve the treatment effect of clopidogrel.

Keywords: Transient ischemic attack; Clopidogrel; Life quality; Influencing factors

Corresponding Author: Xiaohong Gu, 286628359@qq.com

Author's Information: Xiaohong Gu, female, associate chief physician, director of Health Management Department, E-mail: 286628359@qq.com, 13527459954, Ph.D., mainly engages in Chongqing citizen physical examination big data research. Lanbo Chen, male, attending physician, E-mail: 615558459@qq.com, 13638396512, bachelor's degree, mainly engages in research of health-related quality of life of Chongqing citizens.

Fund Project: Chongqing Association for Science and Technology funded project (2014kxkt03).

DOI: https://doi.org/10.30564/jams.v1i1.23

1. Introduction

Transient ischemic attack (TIA) is a common ischemic cerebrovascular disease of neurology and neurosurgery, which was redefined by the American Stroke Association in 2009 as: "Transient neurological dysfunction in the brain, spinal cord, and focal ischemia of the retina without acute infarction"[1]. In 2011, Chinese experts reached a consensus and defined TIA as: "Transient neurological dysfunction in the brain, spinal cord, or focal ischemia of the retina without acute cerebral infarction"[2]. There are about 23.9 million TIA patients in China. Moreover, TIA patients' medical treatment rate, prevention awareness, recognition rate, diagnosis rate

and hospitalization rate are very low. If they do not receive secondary prevention early, they are highly likely to progress to stroke[3]. As the frontier medicine for mid to long-term secondary prevention of TIA[4], clopidogrel has a good efficacy, low cost and small side effect and it is applied widely clinically. Health related quality of life (HRQOL) is a comprehensive evaluation of health conditions and subjective feelings of the population[5] and can be used to observe the condition of TIA patients. In this study, we measured the HRQOL score using the short form 36 questionnaire (SF-36) scale and analyzed the influencing factors of HRQOL to provide a reference for the treatment effect of clopidogrel.

2. Data and Methods

2.1 Survey Object

This study includes 168 TIA patients admitted to the Department of Health Management of Daping Hospital of the Third Military Medical University from September 2012 to September 2014. All subjects were investigated before admission and after treatment. The study was approved by Daping Hospital Ethics Office and informed consent forms were signed with the subjects. The diagnosis of TIA is based on the criteria set by the American Stroke Association in 1990[1]: Repeated attack of transient neurological deficits caused by transient ischemic brain damage; the typical clinical symptoms would last for no more than 24 hours; cerebral infarction is excluded by imageological examination, and the course of disease is up to 1 year. Exclusion criteria: (1) cerebral infarction and other organic nerve injury; (2) non-cerebrovascular disease-induced symptoms; (3) patients who cannot participate in the survey and refuse to receive the questionnaire due to physical reasons. A total of 59 subjects who took clopidogrel before admission are included in the clopidogrel group; 37 subjects taking aspirin for a long term are included in the aspirin group; 72 subjects without secondary prevention are included in the untreated group.

2.2 Survey Method

2.2.1 Survey Tool

SF-36 scale[6]: It is used to evaluate the life quality, the evaluation of the clinical treatment effect and the feedback evaluation of health policy in related testing population. As a concise health questionnaire, SF-36 includes 36 entries and 8 dimensions, each dimension scoring between 0-100 and a total score of 800. The higher the score, the better the life quality, vice versa.

2.2.2 Data Collection Method

SF-36 scale shall be filled by the patient in person and collected back immediately; at the same time, the basic information of clopidogrel group is recorded, including age (< 45, 45-60, ≥ 60), occupation (manual workers, mental workers, the unemployed), gender, diet (low-salt and low-fat diet refers to sodium intake < 2 g / day, fat intake < 50 g / day, cholesterol intake < 300 mg / day), history of smoking (defined by lifetime smoking or cumulative smoking for 6 months or longer by WHO), drinking (drinking means more than 300 mg of alcohol intake per week), exercise (refer to aerobic exercise for more than half an hour per day), and education (junior high school and below, senior high school and secondary vocational school, junior college and undergraduate, master and above), TIA secondary prevention (long-term uninterrupted administration of anti-platelet drugs, anti-hyperlipidemia drugs), body mass index (BMI, < 18.5, 18.5-28, ≥ 28), with or without hypertension (systolic blood pressure ≥ 140 mmHg or diastolic blood pressure ≥ 90 mmHg), with or without diabetes (any blood glucose ≥ 11.1 mmol / L, fasting blood glucose ≥ 7.0 mmol / L or OGTT2h blood glucose ≥ 11.1 mmol / L), with or without hyperlipidemia (fasting serum total cholesterol ≥ 6,145 mmol / L, triglyceride ≥ 1,153 mmol / L), TIA severity score (ABCD2 score, 0-3 points for low-risk group, 4-5 points for middle-risk group, 6-7 points for high-risk group), family per capita monthly income (< RMB 1,500, RMB 1,500-4,000, ≥ RMB 4,000), whether the family is harmonious.

2.3 Statistical Analysis

SPSS13.0 statistical software is used for statistical analysis, the data are expressed in $\bar{x} \pm s$, and one-way ANOVA is employed for HRQOL score comparison of different groups; multivariate stepwise linear regression method is used to analyze the influencing factors of clopidogrel group's HRQOL score. If $P < 0.05$, it means the difference is of statistical significance.

3. Results

3.1 HRQOL Score Comparison

The average HRQOL score of clopidogrel group is 494.15 ± 125.45, the average HRQOL score of aspirin group is 491.34 ± 107.33, and the average HRQOL score of untreated group is 462.17 ± 97.15. The differences of HRQOL scores among three groups are of statistical significance ($F = 4.29$, $P = 0.00$). Through comparison among groups, it is found that there is no difference in HRQOL score between clopidogrel group and aspirin group ($t = 5.35$, $P = 0.00$), and HRQOL scores of clopidogrel group and aspirin group are higher than those of the untreated group ($t = 6.14$, $P = 0.00$; $t = 5.16$, $P = 0.00$).

3.2 General Data Analysis of Clopidogrel Group

The general data statistics of the clopidogrel group (see Table 1) show that the difference of HRQOL score arising from different age groups, occupations, gender, diet, smoking history, drinking history, exercise, BMI, ABCD2 scores, family harmony are statistically significant ($P < 0.05$), and whether the patient is associated with hypertension, diabetes and hyperlipidemia would also cause HRQOL score changes ($P < 0.05$). However, different educational level and household income have no impact on HRQOL scores ($P > 0.05$). The higher the ABCD2 score, the higher the age and the higher the BMI, and the lower the HRQOL score. The HRQOL scores of manual workers are higher than those of mental workers and the unemployed; women's HRQOL scores are lower than men's; HRQOL scores of those who have a low-salt and low-fat diet are higher than those who don't; the HRQOL scores of smokers and alcoholics are relatively low; family harmony and regular exercise can significantly improve the HRQOL score; concomitant hypertension, diabetes and hyperlipidemia will reduce the HRQOL score. (See Table 1)

3.3 Multivariate Stepwise Linear Regression Analysis on HRQOL-Related Factors in the Clopidogrel Group

According to the results of one-way ANOVA, statistically significant variables (excluding education level and monthly income) are screened out, and the HRQOL scores are assigned as dependent variables using these variables as independent variables: Age: ($< 45 = 1$, $45\text{-}60 = 2$, $\geq 60 = 3$); Occupation: (Manual worker = 1, mental worker = 2, unemployed = 3); Gender: (Male = 1, Female = 2); Diet: (Non-low-salt and low-fat diet = 1, low-salt and low-fat diet = 2); Smoking condition: (Non-smoking = 1, smoking = 2); Drinking condition: (Non-drinking = 1, drinking = 2); Exercise: (No exercise = 1, exercise = 2); BMI ($< 18.5 = 1$, $18.5\text{-}28 = 2$, $\geq 28 = 3$); Concomitant hypertension: (No = 1, Yes = 2); Concomitant diabetes: (No = 1, Yes = 2); Concomitant hyperlipidemia: (No = 1, Yes = 2); ABCD2 score (0-3 points = 1, 4-5 points = 2, 6-7 points = 3); Whether the family is harmonious (No = 1, Yes = 2). The data are analyzed through multivariate stepwise linear regression. The results (Table 2) indicate: the HRQOL scores are positively correlated with diet, exercise, gender and family harmony ($P < 0.05$), but negatively correlated with diabetes, hypertension, smoking, drinking, hyperlipidemia, age, career and ABCD2 score ($P < 0.05$). Five most important factors affecting the HRQOL score of the clopidogrel group include: diabetes, diet, hypertension, smoking and drinking. Multivariate linear regression equation: $HRQOL = 634.85 - 22.35 \times diabetes + 18.34 \times diet - 16.20 \times hypertension - 15.56 \times smoking - 14.37 \times drinking$ ($P < 0.05$).

4. Discussion

TIA is a clinical syndrome characterized by multiple factors and symptoms and usually presents with transient limb stiffness and weakness accompanied by headache, dizziness, speech and visual impairment[7]. The current prevalence of cardio-cerebrovascular disease in China continues to increase, and the incidence of TIA becomes more common. TIA is a risk factor for cerebral infarction, threatening the patient's health. In essence, TIA and cerebral infarction are ischemic brain injury; they are different stages of the dynamic process of ischemic lesions, if timely prevention and treatment is not in place, TIA has a higher probability of conversion to cerebral infarction, making disease worse[8]. According to the "Guidelines for Secondary Prevention of Ischemic Stroke and Transient Ischemic Stroke in China 2010", classical solutions of secondary prevention with clopidogrel can significantly improve the prognosis of patients with TIA and reduce the incidence of cerebral infarction[9]. Clopidogrel is an ADP receptor antagonist that blocks platelet activation and inhibits platelet aggregation with minimal side effects; and it is a frontier medicine for treatment of TIA[10]. However, due to the lack of medical knowledge and awareness of the risk of TIA, the living habit and living environment of TIA patients have a greater impact on the treatment effect of clopidogrel. Diagnosis and prognosis of TIA via routine imaging examination are ineffective; while HRQOL employs overall and comprehensive indexes to assess the health, which places more emphasis on the roles of individual and social adaptive capacity in health, and pays more attention to individual subjective feelings[11], and is particularly suitable for the observation of clopidogrel treatment effect.

This study shows that there are more patients in the 45-60 years old group, indicating that middle-aged people are high incidence group. In terms of occupational factor, the higher incidence of mental workers may be related to the lack of movement of copywriters. The higher prevalence of males than females may be related to the greater stress on men's lives. This study shows that the higher the ABCD2 score, the lower the HRQOL, showing a negative correlation between stroke risk and life quality; therefore, more attention should be paid to those with higher ABCD2 score. The HRQOL of patients in harmonious families is much better, indicating that a good family environment will help to improve the secondary prevention effect of patients treated with clopidogrel.

Table 1. General Data Analysis of Clopidogrel Group ($\bar{x}$ ±s)

Factor	Case (proportion)	HRQOL score	F value	P value
Age			4.08	0.00
< 45	12 (18.1%)	513.06±96.34		
45-60	35 (53.0%)	489.38±77.84		
≥ 60	19 (28.9%)	471.25±64.18		
Occupation			3.35	0.00
Manual worker	13 (19.8%)	508.95±82.14		
Mental worker	28 (42.4%)	493.25±73.73		
Unemployed	58 (37.8%)	478.36±83.22		
Gender			4.15	0.00
Male	48 (72.8%)	497.14±65.16		
Female	18 (27.2%)	468.01±48.17		
Diet			3.93	0.00
Low-salt and low-fat diet	27 (40.9%)	505.77±73.89		
Non-low-salt and low-fat diet	39 (59.1%)	475.67±68.31		
Smoking history			3.93	0.00
Smoking	21 (31.8%)	468.53±95.14		
Non-smoking	45 (68.2%)	499.53±40.05		
Drinking history			3.24	0.00
Drinking	19 (28.7%)	468.10±86.35		
Non-drinking	47 (71.3%)	493.47±74.16		
Exercise			3.57	0.00
Exercise	29 (43.9%)	516.16±93.36		
No exercise	37 (56.1%)	465.21±56.32		
Educational level			2.31	0.24
Junior high school and below	26 (39.3%)	489.62±74.15		
Senior high school and secondary vocational school	21 (31.8%)	487.17±97.17		
Junior college and undergraduate	12 (18.1%)	479.10±68.14		
Master degree and above	7 (10.8%)	492.33±73.17		
BMI			3.57	0.00
< 18.5	15 (22.7%)	497.32±58.07		
18.5-28	18 (27.3%)	484.41±86.71		
≥ 28	33 (50.0%)	474.14±61.00		
Concomitant hypertension				
Yes	20 (30.3%)	468.56±41.67	3.78	0.00
No	46 (69.7%)	501.35±93.31		
Concomitant diabetes			4.26	0.00
Yes	24 (36.3%)	473.15±64.15		
No	42 (63.7%)	498.00±90.27		
Concomitant hyperlipidemia			3.38	0.00
Yes	18 (27.2%)	463.18±79.62		
No	48 (72.8%)	497.37±57.16		
ABCD2 score			3.65	0.00
0-3 points	21 (31.8%)	501.35±74.36		
4-5 points	29 (43.9%)	483.53±61.24		
6-7 points	16 (24.3%)	473.11±90.75		
Monthly income			2.09	0.34
< RMB 1500	14 (21.3%)	487.14±77.35		
RMB 1500-4000	37 (56.0%)	489.09±65.87		
≥ RMB 4000	15 (22.7%)	491.35±89.16		
Whether the family is harmonious			4.05	0.00
Yes	49 (74.2%)	506.13±73.43		
No	17 (25.8%)	467.64±48.66		

Table 2. Multivariate Linear Stepwise Regression Analysis on HRQOL-Related Factors

Factor	Regression coefficient	Standard error	Standard regression coefficient	t value	P value
Constant	634.85	3.15		13.15	0.00
Diabetes	-22.35	1.35	-0.33	-4.54	0.00
Diet	18.34	1.31	0.32	4.25	0.00
Hypertension	-16.20	1.29	-0.28	-4.13	0.00
Smoking	-15.56	1.21	-0.24	-4.04	0.00
Drinking	-14.37	1.17	-0.21	-3.89	0.00
Hyperlipidemia	-13.79	1.09	-0.19	-3.68	0.01
BMI	-12.35	0.99	-0.18	-3.54	0.00
Exercise	11.16	0.87	0.16	3.41	0.00
ABCD2 score	-10.85	0.73	-0.14	-3.26	0.00
Age	-9.67	0.71	-0.13	-3.07	0.00
Occupation	-7.18	0.59	-0.11	-2.74	0.01
Family harmony	5.14	0.52	0.10	2.45	0.00
Gender	4.25	0.48	0.06	1.43	0.01

The results of HRQOL-related factors show that low-salt and low-fat diet, exercise, gender are positively correlated with HRQOL. Low-salt and low-fat diet can reduce blood viscosity, thus improving the secondary prevention effect; as a positive factor, exercise has a significant effect on the prevention and treatment of TIA, which can significantly improve HRQOL. According to the suggestions in the "Chinese Guidelines for the Secondary Prevention of Ischemic Stroke and Transient Ischemic Attack (AHA/ASA 2014 Edition)", TIA patients with the capability and the willingness to increase their exercise amount shall be recommended to adopt the new and behavior-oriented exercise scheme[12]. Clinically, the patients should be instructed to increase their exercise and develop a low-salt and low-fat diet, upholding healthy life habits. Men's HRQOL is significantly better than women, which may be related to female hormone endocrine changes and higher psychological sensitivity. As negative influencing factors, diabetes, hypertension and hyperlipidemia significantly reduce the secondary prevention effect of clopidogrel. AHA/ASA 2014 Guideline suggests patients with TIA and metabolic syndrome to receive treatment to lower their blood pressure, blood glucose and blood lipid[12]. Therefore, while using clopidogrel for secondary prevention, the blood pressure, blood glucose and blood lipid shall be controlled at normal levels. Smoking and drinking would reduce the secondary prevention effect of clopidogrel significantly. Nicotine contained in tobacco, tar, and nicotine will damage the endothelial cells and cause blood viscosity, and induce vasospasm, eventually leading to tissue and organ ischemia[13]. Long-term uncontrolled drinking can also lead to vascular injury and cerebral ischemia exacerbation[14]. Medical workers should inform patients of the harms of smoking and drinking on heart and cerebral vessels and urge them to quit smoking and drinking. The older the patient is, the worse the HRQOL is, indicating that age is also a risk factor for secondary prevention effect of clopidogrel. BMI is inversely proportional to HRQOL. As a risk factor for cardiovascular and cerebrovascular diseases, obesity reduces the secondary prevention effect of clopidogrel. Obese TIA patients shall be educated to lower their BMI through diet intervention and exercising. As for the occupational factor, the unemployed and mental workers lack physical movements and thus have a lower HRQOL than the manual workers. During treatment of TIA, special attention shall be paid to the mental workers and unemployed patients and urge them to exercise more.

The results of this study of TIA population HRQOL scores are statistically analyzed, showing that the life quality of TIA patients taking clopidogrel and aspirin for secondary prevention is better than that of the untreated group. There are many factors influencing the clopidogrel's treatment effect. Secondary prevention should be carried out with emphasis on the middle-aged and elderly, the obese, mental workers and female TIA patients; in the meantime, it needs to encourage them to quit smoking and drinking and develop the low-salt and low-fat diet, treat hypertension, hyperlipidemia and diabetes actively, pay attention to psychological counseling and strengthen their exercises. All above measures can significantly improve the secondary prevention effect of clopidogrel.

References

[1] Easton JD, Saver JL, Albers GW, et al. Definition and Evaluation of Transient Ischemic Attack: A Scientific Statement for Healthcare Professionals from the American Heart Association/American Stroke Association Stroke Council; Council on Cardiovascular Surgery and Anesthesia; Council on Cardiovascular Radiology and Intervention; Council on Cardiovascular Nursing; and the Interdisciplinary Council on Peripheral Vascular Disease. The American Academy of Neurology Affirms the Value of this Statement as an Educational Tool for Neurologists[J]. Stroke, 2009,40(6):2276-2293.

[2] Chinese Expert Consensus Group on Transient Ischemic Attack. Chinese Expert Consensus on Transient Ischemic Attack (Update Version) (2011)[J]. Chinese Journal of Internal Medicine, 2011,50(6):530-533. (in Chinese)

[3] Shuangling Gao, Zhanyong Li. Research Progress of the TIA Prognostic Risk Assessment[J]. Chinese Journal of Laboratory Diagnosis, 2014,18(9):1557-1560. (in Chinese)

[4] Yongjun Wang, Chunxue Wang, Zhongrong Miu. Guidelines for Secondary Prevention of Ischemic Stroke and Transient Ischemic Stroke in China[J]. Chinese Journal of Neurology, 2015,48(04):258-273. (in Chinese)

[5] P Sonneveld, S G Verelst, P Lewis. Review of Health-Related Quality of Life Data in Multiple Myeloma Patients Treated with Novel Agents[J]. Leukemia, 2013,27(10):1959-1969.

[6] Caiping Hu, Yi Lin, Qiuping Li. Application of SF-36 Scale and QLQ-C30 Scale in Life Quality Evaluation of Elderly Cancer Patients and Research of Their Correlation[J]. Chinese Nursing Research, 2015,29(8):2968-2972. (in Chinese)

[7] Ren Li, Guimei Zhao, Liying Cui, et al. The Risk Factors of Transient Ischemic Attack and the Value of Whole Cerebral Angiography in Prognosis Evaluation[J]. Chinese General Practice, 2010,13(5):1499-1500. (in Chinese)

[8] Merwick A1, Albers GW, Amarenco P, et al. Addition of Brain and Carotid Imaging to the ABCD² Score to Identify Patients at Early Risk of Stroke after Transient Ischemic Attack: A Multicentre Observational Study[J]. Lancet Neurol, 2010,9(11):70240-70244.

[9] Academy of Neurology, Chinese Medical Association. Guidelines for Secondary Prevention of Ischemic Stroke and Transient Ischemic Stroke in China (2014)[J]. Chinese Journal of Neurology, 2010,48(4):258-269. (in Chinese)

[10] Jianhua Sha. Observation of the Effect of Aspirin Combined with Clopidogrel in the Treatment of Transient Ischemic Attack[J]. Cardiovascular Disease Journal of Integrated Traditional Chinese and Western Medicine, 2015,3(31):18-19. (in Chinese)

[11] Blakemore A, Dickens C, Guthrie E, et al. Depression and Anxiety Predict Health-related Quality of Life in Chronic Obstructive Pulmonary Disease: Systematic Review and Meta-analysis[J]. Int J Chron Obstruct Pulmon Dis, 2014,20(9):501-512.

[12] Jindi Ni, Xiang Li, Mei Liu, et al. Chinese Guidelines for the Secondary Prevention of Ischemic Stroke and Transient Ischemic Attack (AHA/ASA 2014 Edition)[J]. Chinese Journal of Clinical Neuroscience, 2015,23(1):65-73. (in Chinese)

[13] Na Li, Xiaoxu Wang, Haiyan Su. Investigation of Smoking of Retired Elderly Pilots and Cardiovascular and Cerebrovascular Diseases[J]. Chinese Journal of Convalescent Medicine, 2013,22(3):261-262. (in Chinese)

[14] Guangwei Qi, Jia Zheng, Ruibo Zhao. Influence of Alcohol Intervention on the Outcome of Rats and Mice with Ischemic: A Systemic Review[J]. Chinese Journal of Evidence-Based Medicine, 2013,13(2):204-209. (in Chinese)

Investigation on Occupational Disease Inductive Factors of Automobile Manufacturing Enterprises and Evaluation of Control Effect

Xin Wang
SAIC-GM Wuling Automobile Co. Ltd., Qingdao, Shandong, 266555, China

Abstract: The automobile manufacturing industry has a complex process and various processes, so it has buried many occupational-disease-related safety hazards and is the industry of high incidence of occupational diseases. Accurate identification and effective control of hazards in automobile manufacturing are an important guarantee for effective prevention of occupational disease. In order to investigate the types and status of occupational-disease-inductive factors of a car manufacturer, and evaluate the control effect, the general situation of the enterprise is collected from August 2016 to October 2017. And then the targeted treatment, including management measures, engineering protection and personal protection. The occupational-disease-inductive factors that are mainly produced in automobile manufacturing are productive dust, chemical substance and physical factors.

Keywords: Automobile manufacturing; The occupational disease; Hazard factors; The control effect

Corresponding Author: Xin Wang, wangxin2004-1@163.com

DOI: https://doi.org/10.30564/jams.v1i1.24

1. Introduction

With the development of China's transportation industry and the continuous improvement of people's living standards, the automobile manufacturing industry is developing rapidly. According to the national automobile industry association of China in 2017, there are 15,856 enterprises in the automobile industry in China. Its main business revenue and profit volume are growing rapidly; in 2015, the number of car sales in China reached 24,597,583, compared to 2014, over the same period, 4.68%, automobile manufacturing industry is one of the important pillar industries in China[1]. Automobile manufacturing is mainly divided into vehicle manufacturing and automobile parts manufacturing. The vehicle assembly includes automobile assembly and body manufacturing. The parts and components are divided into engine system, braking system, electrical system, transmission system, suspension system, air conditioning system and interior decoration.[2] The process of automobile manufacturing industry is complicated and the process is so many, so there are many occupational-disease-related

safety hazards. Moreover, it has the characteristics of wide distribution, easy contact and great harm. Physical factors (noise, high temperature), dust (metal dust, soot), chemical (carbon oxides, nitrogen oxides, heavy metals, benzene and benzene), etc., is an occupational disease high hair industry.[3] Accurately identify and effectively control the hazards in automobile manufacturing process, it is an important guarantee for effective prevention of occupational diseases.[4]

2. Investigation on the Status of Enterprise Occupational Health

From August 2016 to October 2017, the general situation of a company is collected. Such as nature, number of employees, institution setting, etc. Production process, product, production; The types of occupational-disease-inductive factors, workshops and stations; Personal hygiene protection measures for employees, the distribution and use of protective equipment; Health management protection facilities and emergency systems.

3. Occupational Health Protection Measures

3.1 Management Measures

Formulating the occupational-disease-prevention plan and implementation plan in line with the actual situation of the enterprise, set up a dedicated occupational health management department and responsible personnel, regular environmental monitoring, sampling and evaluation of the automobile manufacturing environment of our company, there is the danger of exceeding standard to undertake active management. Before work, the staff shall be trained and examined by occupational health. After work, the company also regularly arranges medical examinations for employees. And keep the physical examination files. Establish and improve the emergency response system and emergency plan of the factory. Regularly arrange full-time security personnel to inspect various workshops, investigating improper operations and personnel in violation of safety regulations, posting and warning signs or signs in conspicuous locations.

3.2 Engineering Protection

The plant has a large span in construction. The district arranges the workshop. Natural ventilation or air supply, under water, install the fan at the required station. The large dust production line of the production line is equipped with ventilation system and dust removal system. Special stations are segregated, welding, polishing and other more dust, the noise of a large work station to be isolated; The painting workshop also isolated operation, to implement the closed production line, mainly using mechanical arm electrostatic spraying, hand in hand, the paint mist is discharged after treatment with waste gas. Set up the power station, boiler control room, sewage station and air compressor room.

3.3 Personal Protection

Regular occupational-disease-related risk factors and the training of health protection measures, strengthen employee's personal hygiene protection awareness. Configure basic labor protection supplies and protective equipment for each employee. Teaching them to use it correctly, regularly check and maintain the personal hygiene protective equipment of employees. Welding workers to distribute dust respirators, masks, goggles, fireproof sleeves and aprons; Coating workers with anti-gas mask, face mask, antistatic clothing and gloves; The stamping worker dispensed anti-cutting gloves and sleeves. The noise level is equipped with anti-dryness earplugs and earmuffs, and other workshops can be worn according to their own conditions. The working time is strictly according to the enterprise standard. In the morning and afternoon, employees can take a break of 10 ~ 20 minutes. Set up the dressing room and wash the bathroom.

4. Results

The automobile manufacturer is mainly engaged in mechanical operation and manual operation. The main production process is: Press: opening and cutting, forming stamping, processing and storage; Welding: white body assembly and partial assembly line, responsible for welding, adjustment, grinding, inspection and storage; Coating: finish pretreatment, electrophoresis primer, middle coat, surface paint, spray wax and protective material, sealant welding; General assembly and detection line: body assembly, indoor debugging, inspection, qualified warehousing, unqualified repair.

The enterprise includes stamping, body, coating, general assembly of 4 main workshops, the production processes involved are stamping, welding, coating and general assembly. The materials used are paint, steel, curing agent and thinner. Therefore, the main occupational-disease-inductive factors in automobile manufacturing are productive dust, chemical and physical factors. Dust mainly comes from welding dust and grinding wheel. Chemical substances are mainly toluene, xylene, manganese dioxide, butyl acetate, ethyl acetate, solvent gasoline, nitrogen oxides, ozone and hydrogen sulfide, etc. Noise, high temperature and ultraviolet (arc welding arc) are the main physical hazard factors. See Table 1 for details.

Table 1. Analysis table of occupational-disease-inductive factors of a car company

Workshop	Post	Hazard factors
Stamping workshop	Operator, mold repair	Noise and dust
	Maintenance	Dust and noise
The welding workshop	Welders	Dust, noise, arc welding arc, chemical products (carbon monoxide, carbon dioxide, ozone, manganese, etc.)
Coating workshop	Pre-skim	Noise, chemical products (phosphates
	Input	Noise
	Before processing	Noise, chemical products (benzene and benzene)
	A sealant	Noise, chemical products (benzene and benzene)
	To prepare	Noise and dust
	Paint member	Noise, chemical products (benzene and benzene), organic solvents (ether, ester, ketone)
	Spraying	Noise, chemical products (benzene and benzene), organic solvents (ether, ester, ketone)
	polishing	Noise and dust
	Finishing	Noise, chemical products (benzene and benzene), organic solvents (ether, ester, ketone)
Assembly workshop	Assembler	Noise, chemical products (benzene and benzene series, methanol, formic acid, acetaldehyde), gasoline
Test line	Inspector	Noise, chemical products (carbon monoxide, sulfur dioxide and nitrogen oxides)
Joint power station	Power distribution, water treatment station, air pressure station, natural gas station	Noise, power plant, chemical products (methane, hydrogen sulfide)

Table 2. Abnormal physical examination results of employees

Check the project	The number of b.	Check out the abnormal number of results	Detection rate
Blood pressure	1880	71	3.78%
Electrocardiogram (ecg)	1880	82	4.36%
Ultrasound	924	30	3.25%
O.	1021	9	0.88%
Routine blood	1958	43	2.19%
Liver function	1021	22	2.15%
Lung function	1021	2	0.20%

Table 3. Dust operation and lung function, chest film; Whether benzene operation and blood routine examination situation

Check the project	The assignment	The number of b.	Abnormal number	Detection rate
O.	Dust homework	826	0	0
	Non-dust operation	195	9	4.62%
Lung function	Dust homework	826	0	0
	Non-dust operation	195	2	1.03%
Routine blood	Benzene homework	773	0	0
	Harmless operations	1185	43	3.63%

5. Discussion

The occupational-disease-inductive factors such as noise, chemical substances and physical factors seriously threaten the health of employees in automobile manufacturing enterprises. For example, noise causes deafness and tinnitus, long-term exposure to benzene can affect the blood system of the body. Too much dust can cause dust, people who have been engaged in manganese work for a long time have excessive urinary manganese.[5] A number of studies have shown that the noise distribution is the most widely distributed among the risk factors in automobile manufacturers.[6] The most contact noise is the most, therefore, the hearing loss caused by noise becomes one of the most serious occupational diseases of automobile manufacturers. Besides, the occupational diseases caused by noise to workers are multifaceted. The most common of these are hearing loss, such as deafness and tinnitus. It's also reported that noise affects the nervous system, the cardiovascular system, and the digestive system. Prolonged exposure to noise is an independent risk factor for hypertension and ecg. And there is dose-response relationship.[7]

In order to effectively prevent the occupational-disease hazard of automobile manufacturers, providing protection for workers' physical health, promoting the healthy development of enterprises, the following measures can be taken in the position of key hazard factors: To improve relevant policy measures, to formulate and supervise the maintenance and management of the occupational-disease-prevention equipment; Preventive maintenance equipment, ensure the equipment is running normally. Improve production process technology, gradually implement fully automated technology, the opportunity to reduce the direct exposure of employees to harmful substances.[8] Proper placement and debugging of sanitary protection equipment, improving the wind speed of the inlet of the mobile dedusting equipment, the distance between the dedusting equipment and the location of the operation, the dust, dust and dust of the resulting dust shall be inhaled. Improve dust removal effect .[9] Reasonable layout of production process, under the premise of ensuring production, reduce the density of stamping and welding, install sound insulation in the workshop, avoid noise superposition.[10] Regularly conducting training on occupational-disease-related risk factors and health protection measures, improve the workers' self-protection awareness and ability, promote protective measures to every employee. To strengthen occupational health management and supervision, regularly arrange full-time security personnel to inspect the working environment of each workshop. Investigating improper operations and personnel in violation of safety regulations, timely find out the hidden dangers of occupational diseases. Take active and effective management measures.

References

[1] Xiyun Dai, Zhenlong Chen, Jichao Li, et al. Investigation on occupational health status of 138 automobile manufacturers in wuhan economic and technological development zone[J]. Modern Preventive Medicine, 2017,44(6). (in Chinese)

[2] Chow E P, Gao L, et a1. Shifting patterns of the HIV ep id e m ic in Southwest China: a case stud y based on sentinel surveillance, 1995-2012[J]. AIDS Patient Care STDS, 2015,29(6):314-320. (in Chinese)

[3] Wanfeng Zhang, Qiang Tan, Jianyu Wang, et al. The monitoring and analysis of the key occupational-disease-inductive factors in a car manufacturing enterprise from 2010 to 2014[J]. Occupational Health and Emergency Rescue, 2015,33(4):272-273. (in Chinese)

[4] Sui Zhou, Weijun Zhong. A brief analysis of the occupational-disease-inductive and protective effects of the workplace noise of a certain automobile manufacturing enterprise in suzhou[J]. Engineering Technology: Citation, 2016(6):00017-00018. (in Chinese)

[5] Zhizhi Wang, Jiabin Liang, Chuanwei Duan, et al. Occupational hazard factors of auto parts manufacturing industry and investigation on the health status of workers[J]. Practical Preventive Medicine, 2016,23(1):7-9. (in Chinese)

[6] Zhi Wang, Jiabin Liang. Analysis of noise hazards and workers hearing loss in guangzhou automobile parts manufacturing industry[J]. Journal of Occupational Diseases in China, 2015,33(12):96-909. (in Chinese)

[7] Zhizhi Wang, Yongqin Li, et al. Analysis of the sentinel monitoring of occupational-disease-inductive factors in the manufacturing industry of Guangzhou from 2012 to 2014[J]. China Occupational Nedicine, 2016,43(3):301-304. (in Chinese)

[8] Chunyuan Pan. Detection and evaluation of occupational-disease-inductive factors of the new project of a locomotive manufacturing company and the occupational-disease-inductive factors of the occupational hazard of spraying paint[J]. Medical Information, 2015(11):300-300. (in Chinese)

[9] Hongmei Zhang. Investigation on occupational-disease-inductive factors of an intelligent mechanical three-dimensional garage in Chenzhou[J]. Occupational and Health, 2017,33(14):1873-1876. (in Chinese)

[10] Feihui Li, Yuqiao Tang, Shuqun Cheng. The impact of occupational-disease-inductive factors on workers' health[J]. Occupational and Health, 2013,33(15):2145-2148. (in Chinese)

Study on Extraction Technology for Polysaccharide from Blood-Supplementing Angelica Sinensis Decoction

Li Li

Pingdingshan University, Pingdingshan, Henan, 467000, China

Abstract: Purpose:Optimize water-alcohol technology for extracting polysaccharide from blood-supplementing angelica sinensis decoction to improve the extraction rate. Method: Draw the standard curve of glucose reference substance and build the regression equation to calculate the polysaccharide content. Investigate the effect of water addition times, extraction duration, extraction times, ethanol concentration for ethanol precipitation and times of ethanol precipitation on the extraction rate of polysaccharide. Result Add 8 times the medicinal material quality of water, and perform 2 extractions for 120min each time; it shows that conducting 2 ethanol precipitations with 80% ethanol concentration results in the maximum polysaccharide content, indicating the best extraction condition. Conclusion: The experiment establishes an easy and convenient water-alcohol method for extracting polysaccharide from blood-supplementing angelica sinensis decoction, and lays a research foundation on pharmacodynamics of polysaccharide in blood-supplementing angelica sinensis decoction.

Keywords: Blood-Supplementing angelica sinensis decoction; Angelica sinensis; Milkvetch; Polysaccharide; Extraction Technology

Corresponding Author: Li Li, 553072722@qq.com

DOI: https://doi.org/10.30564/jams.v1i1.25

1. Introduction

Blood-supplementing angelica sinensis decoction is created over 800 years ago by Li Dongyuan, one of the four eminent physicians of the Jin-yuan Dynasty. As recorded in Theory of Syndrome Differentiation on Internal and External Injuries, it consists of angelica sinensis and milkvetch with the ratio of 1:5 to achieve the effect of replenishing "qi" and nourishing blood[1]. It is mainly created to treat overstrains and internal injuries, week qi and blood deficiency, floating Yang qi, while it also can be used for menstrual or postpartum blood deficiency, fever and headache, or for long-lasting illnesses and symptoms such as hemorrhoids and ulcerations[2]. The Decoction is also widely used in modern treatment with the critical effect of its polysaccharide macromolecules. Milkvetch in the decoction contains milkvetch macromolecules which can balance the immune performance, improve the metabolism function and hematopoiesis of human body, regulate collagen synthesis and its metabolism, and protect the activity of damaged cells, as well as achieve the effect of anti-oxidation and anti-tumor; angelica sinensis polysaccharide can improve immune and hematopoiesis function of human body and has the function of anti-virus, anti-tumor, anti-radiation injury and anti-oxidation[1]. For further research and development, this test studies its extraction technology by means of water-alcohol method to optimize the extraction process, so as to provide reference for extraction of polysaccharide from blood-supplementing angelica sinensis decoction and lay a foundation for studies on its pharmacology.

2. Experimental Instruments and Materials

2.1 Experimental Instruments

Ultraviolet spectrometry photometer (Beijing Persee General Instrument Co., Ltd.); Electronic analytical balance (Shanghai Sunny Hengping Scientific Instrument Co., Ltd.); Rotary evaporator (Gongyi Kerui Instrument Co., Ltd.); Vacuum pump (Henan Yuhua Instrument Co., Ltd.); Thermostat water bath (Beijing Zhongxing Weiye Instrument Co., Ltd.); Centrifuge (Jinan Boxin Biotechnology Co., Ltd.).

2.2 Experimental Medicinal Materials and Reagents

Angelica sinensis, Milkvetch (National Institute for the Control of Pharmaceutical and Biological Products) Anhydrous glucose (National Institute for the Control of Pharmaceutical and Biological Products), anhydrous

ethanol (AR, Chengdu Chron Chemicals), concentrated sulfuric acid (AR, Chengdu Chron Chemicals), trichloromethane (AR, Chengdu Chron Chemicals), n-butanol (AR, Chengdu Chron Chemicals), phenol (AR, Chengdu Chron Chemicals), distilled water.

3. Testing Method

3.1 Determination Principle of Polysaccharide Content

The study uses phenol-sulfuric acid method to determine the content of polysaccharide. Principle: Polysaccharide reacts with concentrated sulfuric acid to produce monosaccharide, which then dehydrates to produce furfural derivatives, and the furfural derivatives combine with phenol to produce orange compound, thus the polysaccharide content can be calculated by determining the absorbance.

3.2 Preparation of 5%Phenol Solution

Put 100 g phenol, 0.1 g aluminum flake and 0.05 g sodium bicarbonate into round-bottom flask, heat to boiling and take the distillate at 182℃ (the boiling point of phenol), then put 5 g of the distillate into 100ml volumetric flask with distilled water added to 100 mLto get 5% phenol solution.

3.3 Drawing Glucose Standard Curve

Put glucose in the dryer at 105℃ to constant weight, accurately take 40.00 mg and add distilled water to 1000 mL to get 40 μg/mL standard glucose solution, respectively take 0.4 mL, 0.8 mL, 1.2 mL, 1.6 mL, 2.0 mL solution into dry test tubes and add distilled water in each tube to 2.0 mL, then each add 1.0 mL 5% phenol solution before 10 min standing, and eventually test the absorbance value at 490 nm after evenly shaking up the tubes and placing them at room temperature for 20 min. Take 2.0 mL distilled water as blank control. Take absorbance value as ordinate and polysaccharide microgramme as abscissa to draw the standard curve.[2]

3.4 Remove Protein From Crude Polysaccharide

Measure the crude polysaccharide product, add two times of distilled water and stir for dissolvement before adding 1/5 its quality of chloroform solution and 1/30 its quality of butanol solution, after 25 min strong shaking to mix it evenly. put it into centrifugal machine to centrifuge at 2,500 r/min for 5 min, separate centrifuged supernatant and precipitation, then put the separated water layer into centrifugal machine again with 5 repetitions for 5 min each, then put the final gained water layer solution into water bath at 70-80℃ to heat and concentrate to appropria te amount, and eventually put the product in the dryer for vacuum drying at 80℃ before weighing to obtain non-protein polysaccharides.

3.5 Determination of Polysaccharide Content

Take 1.0 mL polysaccharide extracting solution, dilute 15 times, stir evenly, accurately measure 1.0 mL, operate according to procedures stipulated in Item 2.3, measure the absorbance value and then calculate the sugar content in the sample referring to the standard curve.

3.6 Extracting Technology Research on Blood-Supplementing Angelica Sinensis Decoction

3.6.1 Decide the Water Addition

Accurately take 18 g medicinal materials of the decoction and put them into the flask for pretreatment. Respectively add 6 times, 8 times, 10 times its quantity of water to decoct 2 times for 2 h each time; after thoroughly decocting, mix the two filtered solutions together and put the mixture into rotary evaporator to rotate and evaporate to optimal concentration; then, add 80% ethanol solution to precipitate for 24 h before putting it into the centrifugal machine for 5min at 400 r/min, then put the precipitation into the dryer at 70-80℃ for vacuum drying, protein of dried crude polysaccharide can thus be removed, dry the product to obtain protein-removed crude polysaccharide.

Prepare gained crude polysaccharide as per preparation method of sample solution. Accurately take 2.0 mL prepared polysaccharide solution by transfer pipette, place it at 488 nm to measure its absorbance as per phenol-sulfuric acid method (after adding 1.0 mL 5.0% phenol solution, rapidly add 15.0 mL sulfuric acid and then shake evenly), the maximum absorbance indicates the highest polysaccharide content, that means, the corresponding water addition is the optimal water extracting condition.

3.6.2 Decide the Decoction Duration

Measure 3 portions of blood-supplementing angelica sinensis decoction material with 18 g each for pretreatment, add 8 times the decoction's quantity of distilled water to decoct respectively for 60, 120 and 150 min; collect extracted solution and put it into rotary evaporator for evaporation and concentration; as per method of the above procedure (add 80% ethanol solution for 24 h precipitation before putting it into the centrifugal machine at 400 r/min for 5 min, then put the collected precipitation in the dryer at 70-80℃ for vacuum drying; protein of dried crude polysaccharide can thus be removed, dry the product to obtain protein-removed crude polysaccharide), prepare the gained crude polysaccharide as per preparation method of sample solution. Accurately take 2.0 ml prepared polysaccharide solution by transfer pipette, place it at 488 nm to measure its absorbance as per phenol-sulfuric acid method (after adding 1.0 mL 5.0% phenol solution, rapidly add

15.0 mL sulfuric acid and then shake evenly), the maximum absorbance indicates the highest polysaccharide content, that means, the corresponding decoction duration is the optimal water extracting condition.

3.6.3 Decide Decoction Times

Measure 3 portions of blood-supplementing angelica sinensis decoction material with 18 g each for pretreatment, add 8 times the decoction's quantity of distilled water to respectively decoct once, twice and 3 times for 120 min each time, collect the decocted solutions, respectively put them into the rotary evaporator for evaporation and concentration. As per method of the above procedure (add 80% ethanol solution for 24 h precipitation before putting it into the centrifugal machine at 400 r/min for 5 min, then put the collected precipitation in the dryer at 70-80℃ for vacuum drying; protein of dried crude polysaccharide can thus be removed, dry the product to obtain protein-removed crude polysaccharide), prepare the gained crude polysaccharide as per preparation method of sample solution. Accurately take 2.0 mL prepared polysaccharide solution by transfer pipette, place it at 488 nm to measure its absorbance as per phenol-sulfuric acid method (after adding 1.0 mL 5.0% phenol solution, rapidly add 15.0 mL sulfuric acid and then shake evenly), the maximum absorbance indicates the highest polysaccharide content, that means, the corresponding decoction times are the optimal water extracting condition.

3.7 Decide the Ethanol Precipitation Technology of Blood-Supplementing Angelica Sinensis Decoction

3.7.1 Decide the Ethanol Concentration

Accurately take 3 portions of blood-supplementing angelica sinensis decoction concentration solution with 3 mL each for control test, and then respectively take ethanol solution with concentration of 75%, 80%, and 85% to conduct ethanol precipitation to learn and decide which concentration could produce the highest polysaccharide extraction ratio.

After 24 h ethanol precipitation is finished, separate the precipitation and supernatant, collect the precipitation and place it in the dryer at 70-80℃ for vacuum drying before weighing. Remove protein from gained crude polysaccharide as per the protein removing method, and protein-removed crude polysaccharid can be produced after vacuum drying. Accurately take 0.10 mg of the crude polysaccharide product, add distilled water to prepare 0.10 mg/mL sample solution, accurately take 2.0mL by using transfer pipette, place it at 488 nm to measure the absorbances of three solutions as per phenol-sulfuric acid method, and then calculate concentrations and percentage contents to select the optimal ethanol concentration.

3.7.2 Decide the Ethanol Precipitation Times

Take 3.0 g concentration solution of blood-supplementing angelica sinensis decoction, add distilled water to appropriate density, use 80% ethanol solution to prepare ethanol precipitation respectively for once, twice and 3 times, after 24 h, collect the precipitation and place it in the dryer at 70-80℃ for vacuum drying before weighing, protein of dried crude polysaccharide can thus be removed and vacuum dry the product to obtain protein-removed crude polysaccharide; accurately take 0.10 mg of the finally-gained crude polysaccharide, add distilled water to prepare 0.10 mg/mL sample solution, accurately take 2.0 mL by using transfer pipette, place it at 480 nm to measure absorbance A value as per phenol-sulfuric acid method, then calculate the crude polysaccharide percentage content.

4. Experimental Results

4.1 Glucose Standard Curve

After glucose with different concentrations are colored by phenol-sulfuric acid, use spectrophotometer to measure the absorbance at 490 nm. The results are shown in the following table. According to the data, calculate the regression equation: Y=0.017X-0.047, R2=0.993.

Table 1. Absorbance values of glucose standard solution with different concentrations

Sugar quality (μg)	16	32	48	64	80
Absorbance A	0.079	0.20	0.33	0.49	0.64

4.2 Research Result of Water Extracting Technology

4.2.1 Influence of Water Addition on Polysaccharide Contents

As shown in Table 2, adding 8 times quantity of water produces the highest absorbance value, indicating the highest polysaccharide content that means, 8 times of water shall be taken as optimal.

Table 2. Influence of water addition on polysaccharide content measurements

Water addition times	6	8	10
Absorbance A	0.180	0.215	0.209

4.2.2 Influence of Decoction Duration on Polysaccharide Contents

As shown in Table 3, 120 min decoction produces the highest absorbance value, indicating that 120 min is the optimal duration for extracting.[3]

Table 3. Influence of decoction duration on extraction ratios of polysaccharide

Decoction time (min)	60	120	150
Absorbance A	0.190	0.210	0.201

4.2.3 Influence of Extracting Times on Polysaccharide Content Measurements

As shown in Table 4, 2 times of extracting produces the highest polysaccharide content, thus, 2 times extracting are optimal.

Table 4. Influence of extracting times on polysaccharide content measurements

Extracting times	1	2	3
Absorbance A	0.179	0.211	0.200

4.3 Research Result of Ethanol Precipitation Technology

4.3.1 Influence of Ethanol Concentration on Polysaccharide Contents

Among the 75%, 80% and 85% ethanol solution used in ethanol precipitation, the highest ethanol absorbance value is produced by the 80% concentration, that indicates the highest polysaccharide content, thus, 80% concentration is optimal.

Table 5. Influence of ethanol concentration on polysaccharide percentages

Ethanol concentration(%)	75	80	85
Absorbance A	0.166	0.212	0.199

4.3.2 Influence of Ethanol Precipitation Times on Polysaccharide Contents

As shown in Table 6, 2 times of ethanol precipitation produces the highest absorbance value, namely the highest polysaccharide content, thus, 2 times of ethanol precipitation is optimal.

Table 6. Influence of ethanol precipitation times on polysaccharide content

Ethanol precipitation times	1	2	3
Absorbance A	0.177	0.221	0.201

5. Discussion

Use the water-alcohol method to extract polysaccharide from blood-supplementing angelica sinensis decoction, during which experiment the water extracting indicators are optimized to obtain the optimal experiment condition.[4] Decide the optimal method of extracting polysaccharide component from blood-supplementing angelica sinensis decoction by measuring absorbance values. By univariate experimental selection, the optimal water extracting process is obtained as: Add 8 times of water and conduct reflux extraction for 2 times with 120 min for each time.

Use the water-alcohol method to analyze polysaccharide of blood-supplementing angelica sinensis decoction, during which experiment the ethanol precipitation indicators are optimized to obtain the optimal condition. Add blood-supplementing angelica sinensis decoction concentrated solution into ethanol solutions with different concentrations by the phenol-sulfuric acid method (after adding 1.0 mL 5.0 % phenol solution, rapidly add 15.0 mL sulfuric acid and stir evenly), for example: Respectively add 70%, 80% and 90% concentration ethanol solutions with once, twice and 3 times of precipitate, and finally measure the absorbance values, the higher the absorbance value, the higher polysaccharide content is.[5] The result shows that 80% ethanol and 2 times of ethanol precipitation produces the highest polysaccharide absorbance, that is, the highest content, thus it is the optimal condition.

6. Conclusion

From the experiment, it can be concluded that the optimal water extracting ethanol precipitation technology of blood-supplementing angelica sinensis decoction is: add 8 times of water with 2 times of decoction for 120 min each time; water extracting solution shall be precipitated twice by 80% ethanol.

References

[1] Wu Yun. Study on procedure optimization of the extraction of polysaccharides and regularities of distribution in Angelica sinensis[J]. Food Science & Technology. (in Chinese)

[2] HK Yue. Study on the Extraction Technology of the Volatile Oil in Angelica sinensis (Oliv.)Diels Based on Supercritical CO_2 Extraction[J]. Journal of Anhui Agricultural Sciences. (in Chinese)

[3] HK Yue, HZ Jia, J Wang. The extraction technology of the volatile oil in Angelica sinensis (Oliv.) Diels based on supercritical CO_2 extraction[J]. Medicinal Plant. (in Chinese)

[4] W Lv, Z Ji, X Wang. Optimization of Polysaccharide Extraction from Angelica Sinensis Using Box-Behnken Design[J]. Shandong Chemical Industry. (in Chinese)

[5] Y Sun. Optimization of Extraction Technology for Polysaccharide from Angelica Sinensis (Oliv.) Diels[J]. Journal of Chinese Institute of Food Science & Technology. (in Chinese)

Thinking on Treatment of Non-Disease in Traditional Chinese Medicine and the Relationship Between Prevention and Treatment of Subhealth

Wenyi Han Jingxian Li Xiangyu Wang

Shandong Sports Hospital, Ji'nan, Shandong, 250102, China

Abstract: The purpose of this paper is to think about the relationship between the thought of treating the disease of the Chinese medicine and preventing the subhealth. By discussing the connotation of traditional Chinese medicine and the concept of contemporary sub-health, it is considered that the prevention and cure of sub-health is the main category of "preventive treatment of disease". Both have different approaches but equally satisfactory results, while the Chinese use their own unique advantages, the clinical symptoms of Sub-health with personalized regulation and preventive effect, and opens up a new idea for clinical prevention and treatment of sub-health state.

Keywords: Traditional Chinese medicine; Prevention; Treatment

Corresponding Author: Wenyi Han, 13808934544@139.com

Author's Information: Wenyi Han, male, born in December 1970, native of Anqiu, Shandong, master's degree, member of the Jiusan Society, Chief Physician, main research directions: sports medicine, sports rehabilitation medicine, spinal-derived medical diseases, etc.

DOI: https://doi.org/10.30564/jams.v1i1.26

1. Introduction

According to a survey of all mankind by WHO, only 6% of the people in the world are really healthy. 22% of the patients are diagnosed and diagnosed by doctors. That is to say 72% of people are in sub-health state. The sub-health state refers to a kind of "free state",[1] showed no significant disease, but there are individual stages of decay, decreased activity and functional demand of the state. Related studies show that this may lead to individual metabolism and physiological function and living pressure, emotion disorder of multiple factors such as the disorder, if not corrected in time to change this state with time, depth, a series of [2] disease may appear relatively sub-health symptoms. In recent years, with the continuous recovery of traditional Chinese medicine, the area of "preventive treatment of disease" has been widely recognized and explored. This paper aims at expound the idea and prevention and cure of sub-health in TCM, so as to make preliminary guidance and reference for clinical practice.

2. Basic Overview of Subhealth

2.1 The Connotation and Classification of Subhealth

China Association of Chinese Medicine released "sub-health clinical guide" pointed out: the sub healthy body is in a critical state between health and disease, the main clinical manifestations were weakness, fatigue, sleep disorders, muscle joints pain, fear and memory loss, loose stools, constipation, restlessness, irritability and depression, not the normal treatment good interpersonal relationship and a series of non pathological non embarrassing state of health. The sub-health state is also known as the "health", "third state", "gray"[3], many domestic assess-

ment of sub-health by checklist or questionnaire survey to obtain individual information, with the limitation of serious cross-sectional investigation, mainly divided into: physical sub-health, psychological sub-health and social sub-health three sub categories of health.

2.2 Differential Diagnosis of Subhealth

Many scholars believe that[4], a chronic fatigue syndrome and sub health in foreign countries, is a concept which is characterized by a kind of physical and mental abnormality, which is characterized by weakness and fatigue. However, it is still controversial. The United States is the earliest country to carry out chronic fatigue syndrome. In 1988, the chronic disease syndrome (CDC) was clearly defined by the Centers for Disease Control and prevention. The diagnostic standard of CDC is: non hereditary new hair, there is no clear time of onset, chronic fatigue is continued repetitive, cannot be explained, clinical mainly has the following performance: sore throat, muscle stiffness and pain, joint pain, memory decreased, paroxysmal headache, cervical lymph node enlargement and sleep disorder. If above four of the above performance, it was diagnosed as chronic fatigue syndrome.

2.3 The Problems Existing in the Subhealth Study

There are still several prominent problems in the study of subhealth: the generalization of the clinical diagnostic criteria. Because sub-health state is a special state between health and disease. It has no obvious symptoms, but it brings all kinds of discomfort to humans. Therefore, there is no accurate ruler to measure the sub-health. In addition, local doctors have their own diagnostic system, whose standards are uneven, causing sub-health in a special vague area. At present, no consensus has been reached among all researchers in the pathogenesis of sub-health. It may be related to immune system abnormalities, infection of a particular virus and microenvironment disorder. From the research perspective, research on sub-health state is still in the primary stage, the related mechanism and the diagnosis is not clear, and no standardized drugs play a role in the treatment system, it is only the doctor according to the clinical experience about common drugs as a supplement to alleviate the conditioning treatment effect is still unsatisfactory, uneven.

3. Thought of "Treating No Disease" in Traditional Chinese Medicine

3.1 The Basic Connotation of Treatment Without Disease

At first, the Huangdi Neijing, which put forward the idea of treating the disease without disease, said, "the work of the work is not cured and the disease is not treated." It means that the skill of a good doctor is to prevent disease, not to cure the disease that has already appeared. It can be seen that the treatment of the disease is a means to prevent the occurrence, transmission and deterioration of the disease before the arrival of the disease. Jin Ge Hong in "baopuzi feels really" said: "the sage fire did not play with the medicine to nothing before, do not break in period."[5] There are "Q" after the prickly heat pointed out: "liver fever, left cheek first red, heart fever, Yan Xianchi. The disease is not made, see red thorn, called zhiweibing." All of these are positive treatments at the beginning of the onset of mild and insignificant symptoms. The main is: according to the traditional Chinese medicine prevention before disease and disease development. Treatment of disease with its emphasis on health, curb the disease in the cradle, mainly in the natural way, mental conditioning, keep the balance of yin and Yang three parts. Preventive treatment of disease is a kind of advanced medical thought, but there is still no specific scope. According to some abnormal body signals, prevention of possible diseases is significantly different from the symptoms of clinical sub-health.

3.2 For Disease Prevention, Check Erroneous Ideas at the Outset

For disease prevention, is a key principle of check erroneous ideas at the outset for treating gastropathy. "Mentioned" in order "Suwen after elimination of risk in the economy did not sign, to get thin and weak." That is to say, when the human body has some symptoms of deviating from health, but it is far away from the standard of being diagnosed as a disease, we should use conditioning methods to cut off the development of the disease and stop it from developing into a disease. Moreover, the human body in[6] and not righteousness abundant is directly related to the disease can not violate the key elements of the body called, "the righteous memory, do not be evil", when the body is upright in solid dense, evil is relatively small, it is not easy to expel the pathogenic factor, human disease. To prevent disease, not only will make health care throughout the body in disease approaching, also of the emotional and mental state of care, thus, maintain peace and balance of yin and Yang of the state.

3.3 Which Leads to Disease

Not only lead to disease, in simple terms, refers to the timely treatment of the disease has occurred, according to the development direction of predicting disease dia-

lectical theory of governance and the combination of all the methods, and to prevent the further deterioration of the disease. Because the occurrence of diseases mostly from light to heavy, from the shallower to the deeper this gradual development, so the disease early to get treatment according to syndrome differentiation effect, combined with the five line transmission, both inside and outside the table transfer theory principle, prevention of disease development and transfer, accompanied by the transfer time, thus stimulates the recovery health status as soon as possible, is an important measure of preventing disease from exacerbating. "Nanjing had said after seventy-seven difficult: the so-called" preventive treatment of disease, liver disease, liver is known as in the spleen, so the first real temper, without making the evil of liver disease, Gu Yue yan." This is the early prediction of the transmission of disease, and this person is called "the change is not sick".[7]

3.4 From the Transfer, Disease Defense Complex

After being healed by disease and disease, the body is usually in the state of remaining evil. If the vital qi fails to recover, all the functions of the body can not function normally. It is also the critical turning point for the recurrence of the disease.[8] At this point, according to the disease from the transfer principle of diet and emotion, tired and other aspects of the maintenance and consolidation can restore righteousness, for disease prevention and treatment of patients with recurrence plays a key role.

4. The Relationship Between Subhealth and the "Treatment of the Disease" in Traditional Chinese Medicine

4.1 The Idea of Treating the Disease Contains the Content of Preventing Subhealth

The traditional Chinese medicine "zhiweibing" including "for disease" and "disease" and "disease" in three states, although the sub-health status is not equal to the entire contents of preventive treatment of disease, but modern medicine that the free state of sub-health state is in the middle of health and disease, so with Chinese Medicine "for disease" there are great similarities, it is generally attributed to the "preventive treatment of disease" category.[9-10]

4.2 The Thought of Treatment Without Disease Can Guide the State of Subhealth

Because the pathogenesis and causes of subhealth state are not clear, it is very difficult to diagnose subhealth in simple western medicine. Because for modern medicine, if the body did not appear obvious clinical symptoms, the relevant examinations could not show the organic pathological changes and tissues such as internal organs.

References

[1] Xiaogang Deng, Yuping Li, Xiaomin Sun, et al. Clinical research on Bushen Jianpi Recipe for radiation workers' Sub-Health fatigue[J]. Journal of Guangzhou University of Chinese Medicine, 2014,31(5):735-738. (in Chinese)

[2] Dazhong Sun, Zongchang Xiu. The relationship between the thought of treating the disease and the relationship between the physique bias and the subhealth state of Chinese traditional[J].Chinese Medicine Modern Distance Education, 2015,13(9):1-2. (in Chinese)

[3] Lary L, De Loschetter A, Bouc O. Assessing health impact of CO_2 leackage from a geological storage site into building:role of attenuation in the unsaturated zone and building foundation[J]. Internatioal Journal of Greenhouse Gas Control, 2012,15(9):584-586.

[4] Zhuo Yu, Ying Cui. Fudan. Disease early diagnosis method of[J]. Practical Chinese Journal of internal medicine, 2012,26(9):15-16. (in Chinese)

[5] Linru Wang, Junxin Qiu, Xiaotian Zhang. Construction of sub-health management platform in Shuguang Hospital Affiliated to Shanghai University of Traditional Chinese Medicine[J]. International Journal of Traditional Chinese Medicine, 2017,39(5):391-393. (in Chinese)

[6] Jiankun Wu, Chunjun Xu, Haijiao Song, et al. Research on the health experience service model of traditional Chinese medicine[J]. Journal of Beijing University of Chinese Medicine, 2016,39(8):701-704. (in Chinese)

[7] Wronska, A, Kurkowska-Jastrzebska I, Santulli G. Application of microRNAs in diagnosis. 2015,213 (1):60

[8] Jianguo He, Ruichao Wang, Xiaolei Tan, et al. On the role of "preventive treatment of disease" in the prevention and treatment of sub-health[J]. Hebei Chinese Medicine, 2017,(09):1402-1405. (in Chinese)

[9] Weiping Xie of preventive treatment of disease prevention before disease prevention thought sub-health[A]. Beijing University of Chinese Medicine, China Association of Chinese medicine branch of China Association of Chinese medicine constitution. The sixth constitution seminar and the 2008 International Forum on innovation and development situation of traditional medicine. Beijing University of Chinese Medicine, China Association of Chinese medicine constitution. (in Chinese)

[10] Yiqian Zhu, Rongfen Tang. Discussion on the prevention and treatment of subhealth status in the basic hospital of traditional Chinese medicine for the prevention and treatment of[J]. Chinese Medicine Clinical Study, 2014,6(19):51-52. (in Chinese)

"Heterozygous Treatment" Method to Improve the Biased Status of the Damp-Heat Constitution and Symptom Integral: Randomized Controlled Trial

Xianbing Hou Haizhang Wang Yanzhen Huo Peng Su Hui Zhao

Hebei Cangzhou Hospital of Integrated Traditional Chinese and Western Medicine, Cangzhou, Hebei, 061001, China

Abstract: Objective: To observe the clinical effect of "heterozygous treatment" intervening the damp-heat constitution. Method: One hundred and six cases with damp-heat constitution were randomly divided into the observation group and control group, fifty-three cases for each group. Lianpu drink was given to the two groups, and the observation group was treated with scraping, acupuncture, cupping, constitution care and popularization of constitution science for "heterozygous treatment" based on the control group. 70 days later, "constitution classification and determination table of traditional Chinese medicine" was used to determine, and statistics was applied to analyze the change of the symptoms of the two groups before and after the intervention. Results: in the observation group, compared to before the intervention, symptoms like dirty and oily complexion, yellow greasy tongue, bitter taste, dullness and scanty dark urine were significantly improved ($P < 0.05$), and improvement of the above symptoms was greater than the control group ($P < 0.05$). Conclusion: There is no significant difference between the two groups ($P > 0.05$). Conclusion: the "heterozygous treatment" method can significantly improve the clinical symptoms of people with damp-heat constitution, with a better role in regulating.

Keywords: Damp-Heat constitution; Heterozygous treatment; Efficacy index

Corresponding Author: Xianbing Hou, male, director of Hebei Cangzhou Institute of Acupuncture and Moxibustion. He is mainly engaged in identification for constitution and intervention study on traditional Chinese medicine. E-mail: shawn220@163.com

Fund Project: Research Project of Hebei Provincial Traditional Chinese Medicine Administration (No.2015057).

DOI: https://doi.org/10.30564/jams.v1i1.27

1. Introduction

The damp-heat constitution manly features damp-heat manifestations such as dirty and oily complexion, bitter taste and yellow greasy tongue. Related studies have shown that: influenza, gastritis, eczema, especially gastrointestinal disease, hepatobiliary disease, kidney disease, coronary heart disease and other diseases are related to damp and heat, and has clinical manifestations of damp and heat, with a certain physical characteristics[1]. Therefore, early constitution identification, constitution intervention and constitution management can prevent or reduce the incidence of damp-heat diseases to a certain extent. According to the traditional Chinese medicine theories, the characteristics of damp-heat constitution and the specificity of acupuncture and moxibustion, a variety of "heterozygous treatment" methods such as scraping, acupuncture, cupping, constitution care and popularization of constitution science are taken to intervene the damp-heat constitution to observe the its improvement of the degree status of the damp-heat constitution and clinical efficacy.

2. Information and Methods

2.1 General Information

One hundred and six cases of subject for constitution identification in the center of "preventive treatment of disease" in Cangzhou Hospital of Integrated Traditional Chinese and Western Medicine, Hebei, China, during January 2015 ~ March 2016 were selected, all in sub-health status, with various degrees of damp-heat manifestations such as dirty and oily complexion, yellow greasy tongue, bitter taste, dullness, scanty dark urine and viscous excrement, identified as damp-heat constitution. They were randomly divided into observation group and control group with the method of random number table, 53 cases in each group.

There was no statistically significant difference between the two groups in terms of sex, age, duration of damp-heat constitution, etc. (both P > 0.05), with comparability. The details are shown in Table 1.

Table 1. Comparison of the general information of the two groups of subjects

Group	n	Sex (n)		Average age (years old)	Duration of damp-heat constitution (year)
		Male	Female		
Control group	53	15	38	35.6±6.9	2.1±0.6
Observation group	53	17	36	36.3±6.6	1.7±0.8

2.2 Diagnostic Criteria

Sub-Health status diagnosis reference: "Sub-Health clinical guidelines for traditional Chinese medicine"[2], patients with clinical manifestations such as discomfort of physical, psychological, social adaptability in any side or significant decrease in adaptability for more than 3 months, and the reason that may cause the above manifestations was excluded through systematic inspection. Constitution was identified cation according to "Constitution classification and determination table of traditional Chinese medicine" issued by China Association of Chinese Medicine in 2009[3]: there were 7 items for identification of damp-heat constitution, each taking scoring method from 1~5 points. The original lowest score of each item was 1 point, and the highest score was 5 points; the sixth item was only for women to answer, and the seventh item was only for men to answer. Scoring method: damp-heat constitution conversion points = (total points of each item score -6) / 24 × 100. Criterion: if the damp-heat constitution conversion points ≥ 40 points, it was determined as "yes".

2.3 Inclusion Criteria

(1) Meet the diagnostic criteria of sub-health status in "Sub-Health clinical guidelines for traditional Chinese medicine"; (2) Meet the criterion of damp-heat constitution in "Constitution classification and determination table of traditional Chinese medicine"; (3) Volunteer to sign the informed consent and can complete the investigation questionnaire independently or with assistance.

2.4 Exclusion Criteria

(1) Mental disorders, behavior disorders; (2) Organic disease patients; (3) Non-damp-heat constitution in constitution investigation; (4) Fail to well understanding of the questionnaire content due to cultural reasons and other reasons; (5) Have not acquired informed consent.

2.5 Treatment Methods

1) Control group: give the plus or minus lianpu drink. Medicine: 10 g of Coptis chinensis, 10 g of Mangnolia officinalis, 10 g of Rhizoma Pinellinae Praeparata, 18 g of Poria cocos, 10 g of fermented soybean, 10 g of Pogostemon cablin, 12 g of gardenia, 20 g of raw semen coicis. The above traditional Chinese medicine was boiled by the hospital's boiling room. Soak with 300 mL cold water for 30 min, boil with high heat and then simmer for 15 min, filter the liquid, this is the first boiling; then add 300 mL of water and boil, simmer for 15 min, filter the liquid, this is the second boiling. Mix the two liquids up, control the liquid generally at about 300 mL, and pack in 2 bags in vacuum. Take 1 bag respectively in the morning and evening for continuous 30 days, then stop taking for 10 days, and then continue to take for 30 days. If there is adverse reaction during medication, immediately stop the test, and conduct symptomatic treatment.

2) Observation group: give the plus or minus lianpu drink, and the method was the same as the control group, while adding a variety of "heterozygous treatment" methods such as scraping, acupuncture, cupping, constitution care and popularization of constitution science. For specific operation, please refer to the "Regulating program for damp-heat constitution "in the author's paper." The application of "'heterozygous treatment' to constitution regulating in traditional Chinese medicine"[4]. Scraping along the channels: scrape from Geshu area of the 7th thoracic vertebra down to Weishu area of the 12th thoracic vertebra along the channel of governor meridian to urinary bladder; once every 3 ~ 7 days. Ordinary acupuncture: the main acupoint Neiguan, Hegu, Zhongwan, Tianshu, Qihai, Zusanli; for damp heat in upper-jiao, add Quchi and Lieque; for damp heat in middle-jiao, add Fenglong and Neiting; for damp heat in lower jiao, add Yinlingquan and Taichong; 1 time / day, 10 times for a course of treatment, continuous treatment for 6 courses, after the end of the 3rd course, rest for 10 days. Pricking and cupping: select Dazhui, Feishu, Geshu, Ganshu, Weishu, Shiqizhui, Weizhong and location with heavy acute filthy disease; 1 time / day, 10 times make a course of treatment. Constitution care: According to the characteristics of damp-heat constitution, conduct overall protection respectively from five aspects of the food, the four seasons, living, emotion and sports. Popularization of constitution science: understand the patients' living habits in detail and help them analyze the pathogenic factors, make patients eliminate or keep away from pathogenic factors, write popularization of science of regulating damp-heat constitution, teach the preparation of medicated food for damp-heat constitution and simple traditional therapy skills, etc., regularly hold on popularization of science of damp-heat constitution.

Table 2. Comparison of symptom integrals of the two groups before and after intervention (x - ± s)

Group	n	Time	Dirty and oily complexion	Yellow greasy tongue	Bitter taste	Dullness	Scanty dark urine	Viscous excrement
Control group	53	Before intervention	1.38±0.93	2.15±0.88	1.42±0.59	1.36±0.73	2.25±0.69	1.96±0.78
	53	After intervention	1.11±0.67	1.80±0.92#	1.23±0.75	1.25±0.93	1.72±0.96#	1.85±0.98
Observation group	53	Before intervention	1.46±0.80	2.11±0.90	1.39±0.66	1.38±0.76	2.19±0.71	1.98±0.76
	53	After intervention	0.68±0.56#※	1.30±0.81#※	0.63±0.59#※	0.66±0.61#※	0.99±0.89#※	1.55±0.87

Note: Compared with the same group before intervention, # $P < 0.05$; compared with the control group after intervention, ※ $P < 0.05$.

2.6 Observation of Indicators

Record the clinical manifestations such as dirty and oily complexion, yellow greasy tongue, bitter taste, dullness, scanty dark urine and viscous excrement before and after the intervention, and record as 0 points, 2 points, 3 points according to the degree of no, light, medium and heavy.

2.7 Efficacy Criteria

Use the efficacy index for efficacy evaluation, namely: efficacy index = (symptom integral before intervention - symptom integral after intervention) / symptom integral before intervention × 100%. Excellent: clinical symptoms disappear basically or significantly improve, clinical symptom integral reduces ≥ 70%; effective: clinical symptoms improve, clinical symptom integral reduces < 70% and ≥ 30%; non-effective: no significant improvement in clinical symptoms, clinical symptom integral reduces < 30%.

2.8 Statistical Analysis

Conduct data analysis for each group of data with SPSS17.0, measurement data is shown as mean ± standard deviation (± s). Use x^2 test for enumeration data comparison, use t for measurement data comparison, if $P < 0.05$, it means the difference is statistically significant.

3. Results

3.1 Comparison of Symptom Integral of the Two Groups Before and After Intervention

The symptoms such as dirty and oily complexion, yellow greasy tongue, bitter taste, dullness and scanty dark urine of the observation group was significantly improved after intervention ($P < 0.05$) compared to before intervention; and the improvement of the above symptoms was greater than the control group ($P < 0.05$) (see Table 2).

3.2 Comparison of Efficacy of the Two Groups of Patients after Intervention

The overall effective rate of the observation group was 90.57%, higher than the control group, which was 52.83% ($P < 0.05$) (see Table 3).

Table 3. Comparison of efficacy of the two groups of patients after intervention [n (%)]

Group	n	Excellent	Effective	Non-effective	Overall effective rate
Control group	53	6(11.32)	22(41.51)	25(47.17)	28(52.83)
Observation group	53	31(58.49)	17(32.08)	5(9.43)	48(90.57)※

Note: Compared with the control group, ※ $P < 0.05$.

4. Conclusion

With the global warming, the improve of society and people's living standards, excessive competitive pressure and fast-paced lifestyle, too fat and greasy food, addiction to alcohol and tobacco, there have been corresponding changes in the constitution of contemporary people, and damp-heat constitution has become one of the common constitution types[5]. The survey statistics on damp-heat constitution of our center of "preventive treatment of disease" over the last 3 years shows that it accounts for about 10~12% of the biased population.

Professor Ni Cheng summarizes the formation mechanism of damp-heat constitution as: the damp-heat on the skin is manifested as dirty and oily complexion, easy to have acne; for stagnation and steaming of damp-heat, gallbladder qi overflows, the mouth is dry and bitter; for retention of damp-heat, yang qi is contained, result to dullness; for dampness-heat syndrome with predominant damp-

ness, the excrement is viscous; if damp-heat sinks through the liver channel, the urine is scanty and dark; the tongue nature, the coated tongue is yellow greasy, manifested as pulse condition of damp-heat[6]. Therefore, the author combined the clinical experience with sub-health characteristics, and selected 6 items of dirty and oily complexion, yellow greasy tongue, bitter taste, dullness, scanty dark urine and viscous excrement as the important observation indexes of the clinical efficacy of damp-heat constitution.

The idea of "heterozygous treatment" derived from "The Inner Canon of Huangdi -- Yi Fa Fang Yi Lun": "The sages applied 'heterozygous treatment', each in the proper place. Therefore, the disease was cured with different methods because once the symptom was known, the treatment was known", I believe that this is the principle of choosing different methods of acupuncture based on the specificity of the pathogenic factors, the level of disease, the constitution specificity and the specificity of acupuncture and moxibustion. A variety of acupuncture methods have different dredging effect on the meridian, and acupuncture can reach the deep meridian system; the treatment area of scraping is large, which is good at treating the diseases in which the pathogenic factor is on the meridian surface or distributed in large area; the local efficacy of cupping is higher than scraping. Therefore, it can only achieve good efficacy by combining the specificity of the pathogenic factors, the level of disease, the constitution specificity and the specificity of acupuncture and moxibustion to play the role of $1 + 1 > 2$[4]. This is like what Xunzi said in "Encourage Learning", "the men who use carriages and horses do not walk fast, but they can walk thousands of miles, the men who use boat are not good at swim, but they can cross the river. Gentleman's nature is not different from ordinary people, but they are good at making use of things." Acupuncture, scraping, cupping, constitution care, constitution education, etc. is the "thing" used in clinical acupuncture and moxibustion to dredge the meridians, so they should be reasonably combined based on a variety of different advantages of acupuncture methods.

Wang Qi pointed out that damp-heat constitution is mostly seen in many young people, which may be related to the unhealthy lifestyle of current young people, such as greasy food, hobby of roasting, addiction to tobacco and alcohol, little exercise and so on[7]. At present, I have published some papers in the Chinese Medicine, Shanghai Chinese Medicine, Sina microblogging and other media, such as "Invigorating spleen to eliminate dampness is suitable for health maintenance in summer", "Die recuperating for damp-heat constitution", "On the interpretation and thinking of the diet theory in 'Su Wen - Cang Qi Fa Shi Lun' from the perspective of popularization of science", which have been widely concerned by the readers. Especially, I take "five cereals as staple food, five fruits as complementary food, five animals as tonic and five vegetables as supplement, combine their taste to replenish essence and invigorate qi" as the basic diet; semen coicis, lotus seed, Yam, small red bean, mung bean, etc. It can be properly used when making porridge; wax gourd, cucumber, loofah, Poria cocos, duck and crucian can be properly used when making porridge soup; people who have viscous excrement can rub the bell for 100 times clockwise in the morning and evening, push Ren channel from top to bottom for 100 times. Such simple and easy programs for health maintenance are widely used by the readers, getting good feedback. Therefore, through the scientific popularization of knowledge of health maintenance in constitution care and popularization of constitution science, I can speed up the recovery of biased constitution, prevent recurrence, and play a drastic role.

References

[1] Yan Jiang. Discussion on the Relationship between Damp-heat Constitution and Diseases[J]. China Journal of Traditional Chinese Medicine and Pharmacy, 2006,21,(5):293-294. (in Chinese)

[2] China Association of Chinese Medicine. Sub-health Clinical Guidelines for Traditional Chinese Medicine[M]. Beijing: China Press of Traditional Chinese Medicine, 2006:1. (in Chinese)

[3] China Association of Chinese Medicine. Constitution Classification and Determination of Traditional Chinese Medicine[M]. Beijing: China Press of Traditional Chinese Medicine, 2009:4. (in Chinese)

[4] Xianbing Hou, Yingli Liu, Yating Song, et al. The Application of "Heterozygous Treatment" to Constitution Regulating in Traditional Chinese Medicine[J]. Journal of Traditional Chinese Medicine, 2013,17:1514-1515. (in Chinese)

[5] Yan Liao, Qi Wang. Several Related Issues to the Damp-heat Constitution Research[J]. Journal of New Chinese Medicine, 2009,41(3):1-2. (in Chinese)

[6] Xiao Ying, Cheng Ni. Review of Intervention Study on Damp-heat Constitution and Prescription of Traditional Chinese Medicine[J]. Journal of Shanxi College of Traditional Chinese Medicine, 2012,13(5):73-77. (in Chinese)

[7] Qi Wang. Discovery of Chinese People's Nine Constitutions[M]. Beijing: Science Press, 2011:185-190. (in Chinese)

Comparison of the Rehabilitation Effects of Taichi Exercise and Functional Exercise on Scapulohumeral Periarthritis

Gaofeng Zhang

School of Physical Education, Yangtze University, Jingzhou, Hubei, 434024, China

Abstract: Purpose: To investigate and compare the rehabilitation effects of Taichi exercise and functional exercise on scapulohumeral periarthritis. Method: Eighty patients with scapulohumeral periarthritis from a community in Jingzhou, Hubei, China, were randomly selected from January to June 2016. They were randomly divided into the experimental group and the control group. On the basis of routine treatment and nursing, the experimental group (40 patients) adopted the Taichi exercise treatment while the control group (40 patients) adopted the functional exercise treatment. In the end, the shoulder joint pain degree changes, and the improvement of shoulder joint movements and the myoelectricity and myodynamia on the surfaces of the shoulder muscle group of the two groups were tested and measured. Result: The scoring difference of shoulder joint pain between the experimental group and the control group is significant, which is of statistical significance ($P < 0.05$). Before the treatment, the difference of shoulder joint movement between the two groups isn't significant, with no statistical significance, but after the treatment, the difference is significant, which is of statistical significance ($P < 0.05$). The myodynamia difference between the two groups after the treatment is significant, which is of statistical significance ($P < 0.05$). The therapy efficiency of the experimental group is higher than that of the control group and the difference is significant, which is of statistical significance ($P < 0.05$). Conclusion: On the basis of routine physical treatment, adopting Taichi exercise can increase the therapy efficiency on the patients with scapulohumeral periarthritis, can improve the blood supply and inflammation on the shoulder and improve patient's life quality.

Keywords: Taichi exercise; Functional exercise; Scapulohumeral periarthritis

Corresponding Author: Gaofeng Zhang, wushudo@qq.com

DOI: https://doi.org/10.30564/jams.v1i1.28

1. Introduction

The main symptoms of the patients with scapulohumeral periarthritis are shoulder pain, limited movement and sensation of chill. Scapulohumeral periarthritis is a kind of self-limited disease, so the inflammation can be gradually gone after 1 year, the pain sensation would also cease and then the shoulder joint can gradually move. In tradition, scapulohumeral periarthritis can be classified into 3 periods: setting period, frozen period and thawing period. In the setting period, the shoulder joint capsular contraction, and the long tendon and the tendon sheath of the musculus biceps brachii are adhered; in the frozen period, the lesions occur in joint soft tissues, and the bursa mucosa is congested and thickened, the shoulder joint pain is fierce and the movement is limited. Generally, the X-ray examination of the scapulohumeral periarthritis patient shows no obvious abnormity, therefore, the diagnosis of scapulohumeral periarthritis is commonly based on the symptoms and physical signs. At present, the treatment of scapulohumeral periarthritis is mainly conservative treatment through drugs, including the measures like analgesics and physical therapies. The purpose of this study is mainly to investigate the therapeutic effect of Taichi exercise on scapulohumeral periarthritis. The report is as follows.

2. Data and Method

2.1 General Data

Randomly select 80 patients with scapulohumeral periarthritis from a community in Jingzhou, Hubei, China, from January to June 2016. Admission criteria: the patients were diagnosed with scapulohumeral periarthritis in tertiary class-A hospitals in Jingzhou. Exclusion criteria: the patients with severe cardio-pulmonary dysfunction; the patients with severe mental diseases; the patients with severe neurologic diseases and limited activities; the patients with malignant tumor and systemic metastasis; the patients without sufficient time and unable to do exercise on time. Among the total 80 cases, the male patients are 36, with the mean age of (52.9 ± 4.6), and the female patients are 44, with the mean age of (55.9 ± 6.3). 43 cases are complicated with diabetes and 57 cases are complicated with hypertensive heart disease. Among them, 33 cases are in the setting period, 30 cases in the frozen period and 17 cases thawing period. The patient's condition like the period classification, complications and age have little effect on this study the therapeutic effect of Taichi exercise on scapulohumeral periarthritis.

2.2 Method

The control group adopts functional exercise treatment on the basis of routine treatment. In the routine treatment, the analgesics and local physical therapies can be given to the patients to alleviate the pain. The professional rehabilitation nurses should inform the patient of the key points of functional exercise to ensure the patients do exercise every day. The key points are: The patient keeps standing position, then its leg on the affected side goes forward one step, the body leans forward and the arms keep hanging down. Complete the movements of forward, backward and inward rotation and outward stretching under the relaxing status of the shoulder joint. Then gradually move faster and keep the body in attention position. The arms move by following a transverse circle and gradually to a vertical circle. Finally, the hands clasp and move by following a circle. Then the arms of the patient stretch upward and gradually drop down to the chest, and then the arms stretch outward. Repeat the above movements for about 30 times. If the pain on the patient is fierce and the patient is unwilling to do exercise, the family member can help the patient do the exercise and recover.

The experimental group adopts Taichi exercise treatment on the basis of routine treatment. Uniformly train the patients in the experimental group on Taichi, mainly on the movements, such as cloud hands, white crane spreading its wings, changing palms three times and grasping the bird's tail. During the training, communicate with the patients about the meaning and concept of Taichi to make the patients pay attention to Taichi exercise and improve their enthusiasm in exercise. And it is necessary to train the patients on the normalized movements. After achieving the standard, the patients can do exercise by themselves. The exercise degree is subject to staying cool and no feeling of fatigue. The total exercise time every day should be more than 30 min. Do exercise every day for 12 weeks, and then observe the therapeutic conditions of the two groups.

2.3 Observation Indicator

The comprehensive assessment of shoulder joint adopts the Constant-Murley comprehensive scoring system[1], with a full score of 100, including four aspects of content on pain, routine movement, the range of the movement and myodynamia of shoulder joint, and higher score on the shoulder joint represents the better movements of it. Therapeutic conditions: the therapeutic conditions of the patients are classified into obvious effective, effective and ineffective[2], where obvious effective means: no pain sensation in the movement of the shoulder joint of patients, and the shoulder can rise up over 130°, bend forward over 75° and stretch outward over 75°; effective means: relieved pain in the movement of the shoulder joint, and movement of the shoulder joint improves, which can rise up over 110°, bend forward over 60° and stretch outward over 60°; ineffective means: no improvement in the shoulder joint pain and the movement range after the treatment, even worse.

2.4 Statistical Analysis

The scores of the shoulder joint pain and movements in this study were analyzed by SPSS 21.0, in which the measurement data was analyzed by the test, the enumeration data was analyzed by Chi-squared test and the difference is significant, which is of statistical significance ($P < 0.05$).

3. Results

3.1 Shoulder Joint Pain Change Scope

The difference of the pain scores before the treatment between the two groups isn't significant, but after 12 weeks of treatment, the difference of the shoulder joint pain scores between the experimental group and the control group is significant, which is of statistical significance ($P < 0.05$). See Table 1 for details. Before the treatment, the difference of shoulder joint movement between the two groups isn't significant, with no statistical significance, but after the treatment, the difference is significant, which is of statistical significance ($P < 0.05$). See Table 2 for de-

tails. The difference of the myodynamia before the treatment of the two groups isn't significant, with no statistical significance, but the difference between the experimental group and the control group after treatment is significant, which is of statistical significance ($P < 0.05$). See Table 3 for details.

Table 1. The Comparison of the Shoulder Joint Pain Scores of the Two Groups

Group	Number of case(s)	Before treatment	After treatment
Experimental group	40 cases	4.67±1.25	12.08±2.35
Control group	40 cases	4.71±1.09	9.25±2.19
T value		0.025	6.247
P		1.263	0.021

Table 2. The Comparison of the Shoulder Joint Movements of the Two Groups

Group	Number of case(s)	Before treatment	After treatment
Experimental group	40 cases	34.58 ± 3.68	50.98 ± 2.31
Control group	40 cases	35.72 ± 3.91	42.89 ± 2.27
T value		0.364	7.109
P		1.098	0.005

Table 3. The Comparison of the Myodynamia of the Two Groups

Group	Number of case(s)	Before treatment	After treatment
Experimental group	40 cases	17.10 ± 2.08	24.17 ± 2.49
Control group	40 cases	16.93 ± 2.21	19.42 ± 2.20
T value		0.451	6.087
P		1.128	0.023

3.2 The Comparison of the Therapeutic Conditions of the Two Groups

It is found that the therapy efficiency of the experimental group is higher than the control group and the difference is significant, which is of statistical significance ($P < 0.05$). See Table 4 for details.

Table 4. The Comparison of the Therapeutic Conditions of the Two Groups

Group	Obvious effective	Effective	Ineffective	Effective rate
Experimental group	18(0.45)	19(0.475)	3(0.075)	37(0.925)
Control group	10(0.25)	16(0.40)	14(0.35)	26(0.65)
X^2				12.543
P				<0.01

4. Discussion

Scapulohumeral periarthritis is also called inflammation around the shoulder joint, whose main manifestations are shoulder pain and limited movement. It often occurs in female above 50 years old, but according to the epidemiological investigation, it occurs more often in the manual workers. The shoulder joint is a kind of joint with a wide body-movement range. Its stability is mainly based on the soft tissues around and the strength of ligaments, meanwhile, the blood supply for the ligaments around the shoulder is not sufficient, so the degenerative change would easily occur as the age of the patient increases, which is the basic factor for the occurrence of scapulohumeral periarthritis in the soft tissues. And too long fixation on shoulder after the arm injury would lead to atrophy of the tissues around shoulder and adhesion, which can also lead to scapulohumeral periarthritis. The patients feel paroxysmal pain on shoulder at the early stage, then intense pain with the feature of light in the daytime and heavy at night. This may because of aggravation of the original insufficient blood supply to shoulder due to the excited pneumogastric nerve at night. There is also a possibility that the activities of the patients in the daytime can distract their attention while they are likely to focus on the shoulder at night, so that the pain sensation at night is more intense. Meanwhile, the shoulder movements of the patients are limited, which is more obvious when their arms are rising up and stretching outward. Generally, the X-ray examinations of the scapulohumeral periarthritis patients are normal. Hence, the diagnosis of scapulohumeral periarthritis is commonly based on the symptoms and physical signs. Generally, the single Western medicine treatment on scapulohumeral periarthritis has no obvious effect, so the patients should cooperate with functional exercise for treatment.

The advantages of Taichi exercise on scapulohumeral periarthritis treatment can be summarized into the following points: (1) Beneficial to mental health: Taichi is particular about the combination of exercise and awareness. It is requested that the exercisers concentrate on and give up all other thoughts like "omphaloskepsis". When people are concentrating on the movements and removing all other thoughts out of the mind, their brains can have a full rest. The pain sensation is the chief complaint from the patients with scapulohumeral periarthritis. During Taichi exercise, the attention of the patients is distracted, so the pain sensation is reduced. In the study of Yucheng Guo, et al., it is also proved that Taichi exercise can significantly ease the patients' emotions and distract their attention[3-4]. (2) Re-

laxing the shoulder joint of the patient. Each movement, such as inward rotation, outward stretching and rising up in Taichi exercise can drive the movements of the shoulder joints. And the exercise can accelerate blood circulation, increase the returned blood volume, reduce the congested venous blood around shoulder joints and accelerate blood return, thus preventing secretion depression on shoulder joint surface, enhancing the energy and nutrition supplies to shoulder, alleviating edema and inflammation in the joint regions, decreasing the muscle cramp in the joint regions and relieving the pain. (3) Taichi exercise can enhance the lung function of the patients, reduce the blood pressure and improve the cardiac function. For some patients, the occurrence of scapulohumeral periarthritis is caused by cervical spondylosis, heart diseases and lung diseases, which lead to muscle cramp in shoulder and then cause the referred pain. The prolonged unhealed original disease can lead to the persistent cramp in patient's shoulder and ischemia, and then lead to inflammation and then turn into scapulohumeral periarthritis. However, Taichi exercise can improve cardiac and lung functions and then alleviate the symptoms.

In this study, Taichi exercise, compared with routine functional exercise, has a significant difference on the pain sensation, movement range, myodynamia and treatment efficiency. In conclusion, the Taichi exercise treatment, on the basis of routine physical treatment, on the patients with scapulohumeral periarthritis can significantly improve the treatment efficiency and the shoulder condition.

References

[1] Dengkun Nan. Rehabilitation Medicine[M]. Beijing: People's Medical Publishing House, 2008:222-225. (in Chinese)

[2] Ministry of Health of the People's Republic of China. Chinese Medicine New Medicine Clinical Research Guiding Principles[M]. Beijing: China Press of Traditional Chinese Medicine, 1997:142. (in Chinese)

[3] Choy EH. Isolated ACTH Deficiency Presenting with Bilateral Frozen Shoulder. Br[J]. Rhenmatol, 1991,30(3):226.

[4] Yucheng Guo, Pixiang Qiu, Taoguang Liu. et al. An Overview of Its History, Health Benefits, and Cultural Value[J]. Research of Sport and Health Science, 2014,(3):3-8. (in Chinese)

To Carry out Drug Consultation to Improve the Quality of Pharmacy Service in Outpatient Pharmacy

Qiang Shen

China Petroleum Urumqi Petrochemical General Factory Staff Hospital, Urumqi, Xinjiang, 830019, China

Abstracts: Objective: to explore the development of drug counseling service, strengthen the quality of pharmacy service in outpatient pharmacy, better service to patients, promote harmonious relations between doctors and patients. Methods: to analyze the necessity of drug consultation in outpatient pharmacy, in order to improve the quality of pharmacology service in outpatient pharmacy, we will discuss how to effectively provide drug counseling to improve the pharmacological service quality of outpatient pharmacy. Results: the implementation of the complete drug consultation process can effectively improve the quality of pharmaceutical work in outpatient pharmacy. Improve the patient's satisfaction with pharmaceutical work. Conclusion: with the perfection of the medical system, improving the quality of pharmaceutical service in outpatient service, and improving the quality of medical consultation, make it more systematic, normalization is important, only improving the quality of outpatient pharmacy service and strengthening the development of drug consultation work, to achieve the common progress of medical services.

Keywords: Drug counseling; Pharmaceutical services; Hospital pharmacy

Corresponding Author: Qiang Shen, 1510751463@qq.com

DOI: https://doi.org/10.30564/jams.v1i1.29

1. Introduction

With the continuous improvement and improvement of the medical system, China's pharmaceutical services are becoming more and more similar to western developed countries. Outpatient dispensaries are more than just a window to take medicine, more hospital oriented patients, important window for patients, at the forefront of pharmaceutical services, it could be the last step in patient care. Therefore, it is necessary to effectively strengthen the drug counseling service to bring a satisfactory period to the patient's hospital[1-2]. At present, clinical hospitals will occasionally issue some cases related to outpatient pharmacy services. The main possibility is that the patient experienced a long queue registration in the course of medical treatment. To see a doctor, after the payment and inspection procedures, inevitably, there will be anxiety, rage, etc. If you have a pharmacy problem, if there is a shortage of medicines, in the case of a prescription information error, this leads to conflict and conflict between the patient and the medical staff. And then we have a vicious critique of the outpatient pharmacy. If the window pharmacist mishandled the case, disputes arise, not only affected the patient's medicine, it also affected the working order of outpatient pharmacy.

The pharmaceutical counseling service is to change the pharmacy service of the hospital outpatient department. First of all in the fundamental change of the pattern, from the traditional mode of ensuring the supply of drugs as the center, the new model of the patient centered technology service is gradually changing, deeply embedded in the

concept of "patient-centered" service. Secondly, the work center of the outpatient pharmacy is also changed from simple dispensing drug to specific situation of patients to improve the whole process of drugs. Personalized service. By carrying out drug counseling to improve the quality of pharmacy service in outpatient pharmacy, not only should we pay attention to enhancing the professional quality of pharmacists, the improvement of coordination ability between departments of the outpatient department and the systematization of pharmacy informatization, etc. It also combines the needs of patients and their families, constant practice seeks new ways and means to solve problems. Therefore, the development of drug counseling services has met the needs of patients and their families. Providing the patient with tangible medical help, can effectively improve hospital and window satisfaction.

2. The Necessity of Medical Consultation Services Provided by Outpatient Pharmacy

At present, the current situation of outpatient pharmacy in the hospital is to allocate hundreds or even thousands of prescriptions daily. Due to manpower, the limitations of various factors such as material force, it's just one minute of prescription processing for each patient, even less. So how to provide effective pharmacological help for patients in a short period of time, to meet the needs of patients is a problem that needs to be solved urgently[3]. So the outpatient pharmacy service to better meet the patient's needs, to improve the effectiveness of the patient's medication to ensure that the patient is accurate and safe, it is necessary to carry out drug consultation in the outpatient service.

2.1 The Drug Counseling Service Can Guide the Rational Use of Patients

The development of drug counseling can prevent the occurrence of the patient's medication errors due to lack of instructions or prescription writing, can better guide patients to rational use and ensure the safe use of drugs, and can better guide patients to rational use and ensure the safe use of drugs, avoid or reduce the occurrence of adverse reactions[4-5]. Other drug counseling services can be directly related to the patient, fully understand the patient's medication difficulties and doubts, better embodiment of medical philosophy centered on patients, better targeted one-on-one service.

2.2 Drug Counseling Services to Improve Patient Compliance

The development of pharmaceutical consulting services, according to the patient's own medical characteristics, to provide the solution to the question of pharmaceutical knowledge, the patient can fully understand the related knowledge and precautions of the disease and medication. Improved awareness of disease and drug use, it is better to achieve the medication compliance and improve the quality of medication.

2.3 The Drug Consultation Service is Beneficial to the Image of Pharmacists and Hospitals

The development of drug counseling services in outpatient pharmacy has solved the difficulty of patient's medication. Also indirectly promoted the pharmacist's own professional quality, armed with the knowledge of drug use. In order to better serve the patients, another outpatient pharmacy physician who is advising patients on medication through a drug counseling service, it also increases the patient's preference for medical staff. At the same time, establish a good medical image of the doctor. We will also carry out drug counseling services in outpatient wards, can make patients better science, reasonable and effective, reducing health care, improve hospital health and health service image. In a word, conducting drug counseling services, better reflect the patient centered service concept, make medical services more human, standard.

3. Problems Existing in Pharmaceutical Services Need to Be Rectification and Improved

3.1 The Working Ability and Service Attitude of Window Personnel Need to Be Improved

Continuous improvement and innovation of outpatient pharmacy service mode is an important guarantee to guide patients' medication safety. It also reflects the improvement of the overall medical level of our hospital. With the deepening reform of the medical system, the number of hospital outpatient visits increased, patients also have higher requirements for medical services[6], but as the patient grew, pharmaceutical managers are limited， heavy medical work has led to a decline in the quality of pharmaceutical services[7]. In hospitals, patients often complain about the poor service attitude of the pharmacy. Other window personnel have no higher professional knowledge quality, it's hard to answer the patient's question, unable to give accurate medication guidance, they tend to push the question to the doctor, the source of the dispute.

3.2 The Coordination Capacity of the Outpatient Departments Needs to Be Improved

The coordination of the department of outpatient departments facilitates the simplification of the patient's medical procedure, shortening waiting time, effective, a quick procedure. If the pharmacy does not cooperate with the out-patient physician, if a doctor may issue an unqualified

prescription or a shortage of medication, it can cause patients to overdo their problems unnecessarily, increase the difficulty of seeing. To increase the mental health of the patients, and cause unnecessary dispute cases, if the pharmacy can communicate effectively with the toll collection, it will simplify the withdrawal process, to alleviate the adverse emotions caused by withdrawal, etc. Reduce the occurrence of adverse events[8].

3.3 The Information System is Not Perfect

The development of various industries in modern society cannot be separated from informationization and digitalization. Hospital pharmacy management is no exception. There are many kinds of outpatient drugs, and the indications for each drug, the adverse reactions of contraindications and drug compatibility are different and the patient has a history of allergy, the history of medication may affect the patient's safe use. Therefore, information medical data support can effectively liberate physicians and pharmacists in the ability, with limited energy, play the best service role.

4. Carry out Medical Consultation and Improve the Quality of Out-Patient Pharmacy Service

Opening a consultation window through an outpatient pharmacy, exercise to improve pharmacists' technical knowledge and good communication skills, to better implement the concept of "patient-centered" service, strengthening inter-departmental coordination capacity, medical system information, etc. Provide reasonable guidance for patients, can gradually establish a good social image of pharmacist, eliminate patients' incorrect understanding of pharmacists' work, strengthening mutual understanding, improving the doctor-patient relationship, effectively enhancing pharmacists' position in the social and medical industry, improved window and hospital satisfaction.

4.1 Improve the Professional Level of Pharmacists

Higher requirements for consulting pharmacists, not only should I have a solid knowledge of medicine and medicine, also need to be familiar with the common drug related knowledge and drug management laws and regulations. To have a thorough understanding of the work flow of various departments in hospitals, in order to work better. After the improvement of the professional level of pharmacists, providing more science for patients, professional medicine knowledge solution, to provide more help for patients, also notice the changes in mood, give comfort and care in time, promoting harmonious relations between doctors and patients, promotion window service image in the patient's mind, enhancing the status of pharmaceutical staff in pharmaceutical services, better to relieve the pressure of doctors, better ensuring the scientific nature and accuracy of drug counseling services, improve the good social image of the hospital.

4.2 Strengthen the Coordination Capacity Among Departments of the Outpatient Service

First of all, the outpatient pharmacy should organize the discussion and communication between the pharmacists and the outpatient doctors on the common problems that are easy to go wrong or prone to disputes, including the issue of psychotropic substances, a lot of rules, detailed explanation of similar drugs or new drugs. Through brochures, the lectures and so on, other special medication taboos and precautions need to be memorized[9]. Secondly, the pharmacist of the outpatient pharmacy should strengthen the communication between the toll office and the delivery fee or withdrawal. A better way to avoid withdrawal is to delay patient visits. Strengthen communication with pharmacy, ensure the balance of drug and drug supply. Finally, the pharmacist needs to strengthen the cooperation with the guide, patients with special groups, such as pregnant women, young children and old age need timely contact with the physician, in order to provide them with personalized services.

4.3 Update and Upgrade of the Information Medicine System

The improvement of information system can simplify the procedure of medical treatment better. Shortening the time for patients to line up for medicine, when the doctor was completed, the patient may receive a warm note on payment, and on the list of prescriptions, drugs and drugs can be found on several windows. Avoid the unnecessary waiting line and even forget to take the medicine toner. In addition, electronic medical records can be printed on computers. With the use of the drug used, dose and time, better access to the patient's medicine, use of drugs, make the patient care more clear, transparent.

4.4 Provide Guarantee for the Rational Use of Patients and Reduce the Occurrence of Drug Therapy Accidents and Disputes

As people become more aware of the safety of drug applications, the patient is attaching more and more importance to the toxicity and adverse reactions of drugs. Hopefully the pharmacist will give more science,pProfessional guidance, other food. All the factors that affect the effect of drug use, such as medication duration, are the ones that patients care about. Then you need the pharmacist to tell you about it. Some patients have concerns about possible

adverse reactions to drugs, it is the concept of drug trimetics that is so ingrained in the patient's mind, so the pharmacist has to give the patient a detailed explanation of the situation, the adverse reaction is that the drug is in normal usage, the presence of an unrelated response to the treatment, and to inform compliance with the effectiveness of the prescribed medication, the advantages outweigh the disadvantages, to inform patients of the need to reduce their sense of panic and to increase medication compliance, and to guide patients to better use the drug to reduce adverse toxic side effects. If some medications need to be taken after meals to relieve gastrointestinal adverse reactions, patients with allergic constitution should stop the drug immediately and replace the same drugs with the same effect to ensure safe use[10].

5. Discussion and Prospect

Current drug counseling service is a popular medical service model in China. Our hospital is a comprehensive hospital,More visits per day. It is not realistic to solve the problem of the patient's rational use of medication only by the patient's short contact with the agent for a few minutes. It's hard to understand, including dosage of medication, way, time and adverse reactions and issues of attention. In this study, the use of drug counseling services can be used to solve the problem of drug use during the diagnosis and treatment. And according to the doctor's advice, sientific medicine, improve compliance with pesticide. At present, there is a wide range of clinical applications of new drugs and the application of patients. And multidrug use is also a must for some diseases, so the interdrug interactions and the incidence of adverse reactions increased, so we're strengthening drug counseling. It is very important to improve drug cognition to improve the quality of pharmacy pharmacy[11].

Drug counseling is carried out to ensure the safety and efficacy of patients during their medication. It also enhances the patient's medication compliance[12]. For the pharmacist, constantly armed with medical knowledge. I also improved my professional level, gradually changing the image of a drug salesman in a patient's heart, promoting the transformation of hospital pharmacy services into patient-centered medical concepts, get patients to communicate directly with pharmacists to solve problems, improved the medical value of pharmacists.

In the new medical situation, with the continuous improvement and improvement of the new model of medical science. Instead of taking medicine as our service philosophy, the concept of medical service is deeply centered on patients. As a result, the window of drug consultation is the only way to improve the service quality of outpatient pharmacy. In the future outpatient pharmacy service model, further effective and effective rectification measures are needed, to strengthen the construction of various hospital regulations and procedures, continuous improvement of the patient-centered pharmaceutical service model, leading the pharmaceutical service technology with scientific medicine, better provision of safe and safe medication guidance for patients, to achieve more economic, security, use proper medicine.

References

[1] Liping Guo, Hua Cheng, Fengmei Xiong, et al. Practice in our outpatient pharmacy drug consultation and experience[J]. Journal of Pediatric Pharmacy, 2014,18(1):61-63. (in Chinese)

[2] Mina Lu. Carry out drug consultation to improve the quality of outpatient pharmacy service of[J]. China Practical Medicine, 2013,8(8):260-261. (in Chinese)

[3] Yujun Liu, Fei Li, Wen Yao, et al. Practice and Discussion on improving the satisfaction of outpatients to pharmaceutical care[J]. Pharmaceutical Research, 2013,32(11):671-672. (in Chinese)

[4] Suying Zhang. Pharmacy service and promotion of outpatient pharmacy discussion[J]. World's Latest Medical Information Digest: Continuous Electronic Journal, 2016,16(19):165. (in Chinese)

[5] Yidong Chen, Yanhui Zhang, Yanping Liao. Analysis of the measures to improve the quality of pharmaceutical care in outpatient pharmacy[J]. Psychologist, 2015,21(5):6-8. (in Chinese)

[6] Ting Liu. Discussion on information management of hospital pharmacy[J]. Chinese Medical Guide, 2013,11(33). (in Chinese)

[7] Jing Qu. How to improve the pharmacy service level of outpatient pharmacy[J]. World's Latest Medical Information Digest: Continuous Electronic Journal, 2015,15(72):250. (in Chinese)

[8] Xia Liu, Cheng Guo. Discussion on the reform and innovation of pharmacy service in outpatient pharmacy[J]. Chinese and Foreign Medical Research, 2013,11(9). (in Chinese)

[9] Huiqin Zhang. Study on patient-centered pharmaceutical care in outpatient pharmacy[J]. Grass-Roots Medical Forum, 2015,12(21):2961-2961. (in Chinese)

[10] Chuanmin Xu, Hua Zhang. How to improve the level of pharmacy service in outpatient pharmacy[J]. Chinese Grassroots Medicine, 2015,11(24):3822-3823. (in Chinese)

[11] Duohu Chen. To the Macro And improving measures of[J]. World Health Digest of Outpatient Pharmaceutical Services, 2014(15):59-60. (in Chinese)

[12] Mei Shao. Analysis of the effective way of improving the level of pharmacy service in outpatient pharmacy[J]. Health: Academic Edition, 2014,8(9):324. (in Chinese)

About the Publisher

Bilingual Publishing Co(BPC) is an international publisher of online, open access and scholarly peer-reviewed journals covering a wide range of academic disciplines including science, technology, medicine, engineering, education and social science. Reflecting the latest research from a broad sweep of subjects, our content is accessible worldwide – both in print and online.

BPC aims to provide an academic platform for academic exchange and cultural communication that help organizations and professionals in advancing society for the betterment of mankind. BPC hopes to be indexed by well-known databases in order to expand its scope to the science community, and eventually grow to be a reputable publisher recognized by scholars and researchers around the world.

BPC adopts the Open Journal Systems, see on ojs.bilpublishing.com

About the Open Journal Systems

Open Journal Systems (OJS) is sponsored by the Public Knowledge Project Organization from Columbia University in Canada, jointly developed by PKP, the Canadian Academic Publishing Center and Canada Simon Fraser University Library. OJS can realize the office automation of periodical editing process, station build and full-text journals by network publishing. The system design is in line with international standards, and supports peer review. It is very helpful to improve the citation rate, academic level and publication quality of periodicals.