

# Analysis on the psychological factors of glaucoma and the influence of the psychological therapy after the education on the glaucoma club

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## Abstract

• **AIM:** To investigate the psychological character of the glaucoma patients and analyze the influence of the psychological therapy after the education on the glaucoma club

• **METHODS:** One hundred primary glaucoma patients were chosen as research objects and were randomly divided into two groups: experimental group (50 cases) and control group (50 cases). Methods symptom checklist 90 (SCL-90), Self-Rating Depression Scale (SDS), Self-Rating Anxiety Scale (SAS) and related psychological health questionnaires were used to evaluate these patients. Patients in the experimental groups would go into the glaucoma club for a half-year psychological therapy during the period of the physical therapy, while patients in the control group were only gave the physical therapy. After half of the year, all these patients filled the questionnaire again.

**RESULTS:** After the psychological therapy, patients' psychological status in the experimental group was significantly improved ( $P < 0.05$ ). It was the explanation that the therapy group had great effects compared with the control group ( $P < 0.05$ ). Glaucoma psychology could be attributed to eight psychological symptoms, depression was the main character.

• **CONCLUSION:** Psychological therapy in the glaucoma club is effective, however, the continue efforts in the promotion of the glaucoma club are needed.

**KEYWORDS:** glaucoma club; psychological therapy; depression

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## INTRODUCTION

The primary glaucoma is a serious disease with visual acuity, visual field and optic nerve damage, mostly due to the pathological elevation of intraocular pressure (IOP). In recent years, the primary glaucoma has been identified as a psychosomatic disease. Some people regard it as psychosomatic glaucoma. Many years ago, foreign scholars had used Minnesota Multiphasic Personality Inventory (MMPI) to measure glaucoma patients whose personality deviation was 66%, while the control group was only 5%. Rorschach Inkblot drawings with projective tests measured patients with neuroticism, consciousness, strong, aggressive allergy fluctuations, depression *etc.* Domestic scholars had used a variety of psychological methods to establish that the personality of primary glaucoma patients tended to be anxiety and introversion, poor ability to adapt to the external environment. Primary glaucoma had not only anatomic characters, but also genetic characters. Offspring's character was extremely similar to his parents. In addition, 80% acute glaucoma attack was associated with a sudden change. Individual case could elevate IOP from 30mmHg to 50mmHg in several minutes. Emotional stability of the low pressure glaucoma patients was worse than the open angle and angle-closure glaucoma patients. Mood assessment had indicated: anxiety and depression were high.

In order to make the glaucoma patients to understand the relevant knowledge of glaucoma, and to administer glaucoma patients with scientific, systematic management and treatment, Eye Hospital of China Medical University established the glaucoma club, which had been successfully held for four years, by the majority of patients with welcome. Every time the expert presented professional lectures to the

patients and performed on patients with psychological counseling and education. This study was designed to observe the influence on the psychological condition of patients during glaucoma propaganda and education, and to make clear the mission of the glaucoma club in the glaucoma therapy.

## MATERIALS AND METHODS

**Materials** One hundred patients who were firstly diagnosed as glaucoma were chosen as the subjects during 2009–2010 in our hospital, the angle-closure glaucoma in 65 cases, open angle glaucoma in 35 cases, at the age of 25–75 years old. The average age was 62 years. Among the patients below 60 years accounted for 15.6%, 60–70 years accounted for 62.4%, over 70 years old accounted for 22%. All the patients had been confirmed by clinical method, without any treatment before.

## Methods

**Questionnaire** After finished the psychological test using SCL-90, SDS, SAS, questionnaires, all the 100 patients were randomly divided into two groups: experimental group and control group, 50 cases for each group. Patients in the experimental group would go into the glaucoma club for a half-year psychological therapy during the period of the physical therapy, while patients in the control group were only gave the physical therapy. Half a year later the patients in two groups took the psychological test again

**Intensive training** The specialist provided professional and scientific knowledge to the patients, including the definition of glaucoma, etiology, clinical manifestations, diagnosis, treatment and routine care, health care, while focused on the methods of treatment and daily care. The current approach to glaucoma therapy: various types of glaucoma medications, advantages and disadvantages, operational way, safety and indications. Emergent treatment was also taken to them. Patients with glaucoma could have a clear understanding to the disease.

**Daily psychological counseling** Ophthalmologists introduced the relevant knowledge of glaucoma to the patients, including drug treatment and operation treatment, prognosis, and so on to help the patients eliminating fear, having a positive view to the disease and reducing psychological stress and mood swings. Psychodynamic psychiatrists provided professional psychological therapy to the patients. Specialist nurses provided psychological care, from psychological nursing during the operational period to the telephone counseling, family follow-up after the patients discharged from the hospital. Patients were encouraged to listen to the light music, stroll in the woodland or the park to relax mind every day.

**Statistical Analysis** Difference among two groups was compared with SPSS 17.0 statistics software by using *t* test.  $P < 0.05$  was selected as significant standard.

## RESULTS

Table 1 showed that glaucoma patients could improve the psychological status by systematical glaucoma club mission and psychological treatment, the difference was statistically

significant ( $P < 0.05$ ). The experimental group and the control group were in the initial stage of indifference ( $P > 0.1$ ). Half a year after treatment, there was significant difference ( $P < 0.05$ ) in SCL90. Glaucoma psychology could be attributed to eight psychological symptoms, depression had the highest proportion.

Table 2 showed that depression had the higher proportion, the experimental group and the control group were in the initial stage of indifference ( $P > 0.1$ ). Half a year after treatment, there was significant difference ( $P < 0.05$ ) in SAS and SDS. From the two tables we could see that the patients with the primary glaucoma always had abnormal behaviors, which was related with abnormal psychology. Glaucoma psychology attributed to eight psychological symptoms: depression, obsessive-compulsive symptoms, somatization, anxiety, paranoid, fear, doubt, psychotic symptoms. Depression had the highest proportion. Half a year after treatment, the psychological status of the patients were significantly improved.

## DISCUSSION

Glaucoma is an eye disorder that leads to total loss or partial vision. Damage occurs in the optic nerve and nerve fibers of the eye. Persistent elevation of IOP, badly optic papilla perfusion and complicated with severe visual dysfunction will cause blindness. Emotion, trauma, excessive fatigue, abrupt climate change, binge drinking, binge eating, staying too long in the darkness were the causes of elevated IOP<sup>[1]</sup>. Clinical manifestations were shown as headache, dizziness, eye pain, seeing everything as the rainbow. Severe cases with the eyesight drops quickly leaving only light perception, with nausea, vomiting, fever, chills. The main treatment was to reduce the IOP with medication or operation<sup>[2]</sup>. In order to allow the patient to achieve the best effect, the related treatment and care had been paid more and more attention in recent years.

With improved techniques, treatment of glaucoma tended to become more and more comprehensive and scientific. Glaucoma patients with mental disorders had been widely recognized. Amounts of research showed that the primary glaucoma was regarded as a typical psychosomatic disease. The occurrence, development and prognosis of the disease were closely related to psychological social factors<sup>[3]</sup>. Talking to its pathogenesis, in addition to the anatomic factors, genetic factors, psychological factors also played important roles<sup>[4]</sup>. Therefore, in the course of the treatment, psychological care, intervention to promote recovery from the disease, reducing complications, improving the prognosis and the patients' quality of life also had a vital role<sup>[5]</sup>. Studies had shown that optimistic mood could effectively avoid the elevated IOP<sup>[6]</sup>. As emotional, sympathetic arousal, mydriasis muscle made the pupil to expand. The anterior chamber angle became more narrowly, water could not smoothly go through the anterior horn and into the anterior chamber, which leading to the elevated IOP. Stressful events were often the pathogenesis of glaucoma. According to the survey, the primary glaucoma.

**Table 1 The contrast on the psychological status of patients with glaucoma between the experimental group and control group (SCL90)**

Project	Before counseling( <i>n</i> =50)			After counseling( <i>n</i> =50)		
	experimental group	control group	<i>P</i>	experimental group	control group	<i>P</i>
	$\bar{x} \pm s$					
Somatization	24.67±5.88	23.10±7.22	>0.1	15.27±4.27	22.35±7.14	<0.05
Compulsion	21.93±5.31	20.80±5.83	>0.1	15.93±4.02	19.92±7.58	<0.05
Hypersensitivity	16.47±2.61	15.13±3.63	>0.1	13.40±2.35	15.05±4.26	<0.05
Depression	31.0±10.05	28.4±10.90	>0.1	17.97±6.06	29.06±9.06	<0.05
Anxiety	20.97±6.19	21.00±6.54	>0.1	15.17±3.57	21.33±5.12	<0.05
Hostility	13.70±2.35	14.77±4.11	>0.1	12.63±1.92	15.32±4.63	<0.05
Fear	8.60±2.24	8.67±2.38	>0.1	6.83±1.56	9.02±1.89	<0.05
Paranoid	9.33±2.26	10.23±3.31	>0.1	9.40±2.41	10.12±3.65	>0.1
Psychopathy	10.73±3.07	11.77±3.19	>0.1	8.43±1.72	11.28±3.44	<0.05
Other projects	18.00±5.14	21.17±2.31	<0.05	11.03±2.59	20.88±3.35	<0.05
Total score	174.37±34.09	174.70±42.72	>0.1	126.07±21.95	174.33±50.12	<0.05

**Table 2 The contrast on the psychological status of patients with glaucoma between experimental group and control group (SDS, SAS)**

Project	Before counseling( <i>n</i> =50)			After counseling( <i>n</i> =50)		
	experimental group	control group	<i>P</i>	experimental group	control group	<i>P</i>
	$\bar{x} \pm s$					
SAS	46.21±3.12	45.84±6.83	>0.1	36.58±6.82	43.25±7.56	<0.05
SDS	58.42±6.64	56.23±8.98	>0.1	49.89±9.18	55.48±7.06	<0.05

patients experienced a large number of life events, such as health, family, work, economic problems and living environment changes. Cold, emotional stress led to low tension glaucoma<sup>[7]</sup>. Chronic persistent psychosocial stress was the main causes for about 56.3% of patients. While interpersonal conflict, political conflict and too much pressure during work led to psychological stress<sup>[8]</sup>. Although the IOP of the normal eye and the sick eye could uniformed increase when faced with stress events. But the two reactions were different, the former needed continued stress to increase the pressure, while the latter only needed a short time. Therefore, people with glaucoma quality tended to increase the IOP and became a glaucoma patient finally. Researchers had demonstrated that glaucoma, especially angle - closure glaucoma patients had special characters<sup>[9]</sup>. Personality characters as social introversion, poor ability to adapt, hypochondria, hysteria, depression were very outstanding. They often had depressed mood, anxiety, insomnia, somatic complaints, and emotional instability. The patients with the acute glaucoma had more obvious psychoticism than the chronic ones<sup>[10-12]</sup>. In addition, angle - closure glaucoma patients with type A personality were more significant, they showed competition, emotional instability, impatience, irritability, love temper, often a sense of time urgency, having unrealistic desires and intentions. Low pressure glaucoma patients had more introverted personality than the open angle and angle - closure glaucoma patients. Emotional assessment indicated that anxiety and depression were high<sup>[13]</sup>.

In this study, we took a series of purposefully, planned

observation for 100 patients, and made a scientific psychology evaluation. We studied the patient's psychological abnormality combined with patient's age, character, occupation, hobbies, culture and family environment. We found that patients with primary glaucoma had the following psychological symptoms: (1) somatization: most of the patients are lack of basic medical knowledge for their illness, as they have glaucoma attacking history, even if the IOP is normal, they will also feel dizzy or head discomfort, stomach discomfort, rapid heartbeat, palpitation and other symptoms; (2) compulsive symptoms: these patients are more common in elder people, the majority of whom retire at home, characterized by repeated to do anything or think over the same ideas. They want to resist, but can not control the impulse from the heart; (3) depression: as the main symptoms, the patients show fragile psychology, interest waned, dull, depressed mood; (4) anxiety: such patients often have a nameless fear, accompanied by nervous, accelerated heartbeat, occasionally sweating; (5) fear: some patients can not stay alone in the house, they are full of fear to the disease, their feeling are very weak, and they can not actively cooperate with the treatment; (6) paranoid: such patients can not listen to the others and can not cooperate with the treatment with stubborn personality and irritable temper; (7) doubt symptoms: such patients can not believe others, occasionally think you are tracking. There is no peace in their life; (8) psychopathy: such patients have auditory hallucinations, mostly being criticized, blamed, or having self - reproach tendency and loneliness. Therefore, we found the glaucoma club. We explain the disease and treatment knowledge to the patients.

By the club activity and daily psychological counseling, we help them to relieve the psychological pressure, eliminate the bad emotion, enable them to have a stable mood to cooperate with treatment. We need to answer their question patiently, concern for their details of life, respect for the patient's self-esteem with fully understanding and sympathy. Then patients can easily regard the medical staff as their relatives and will be willing to vent their inner pain, so as to further eliminate the adverse psychological factors, establish the determination to overcome the disease.

In this research, we use a randomized, parallel control method to analyze the relationship. The result shows that psychological status of patients in experimental group is obviously better than that in the control group. It can further explain that psychological therapy can effectively improve the psychological condition of the patients with primary glaucoma, improve their quality of life and their confidence to overcome the disease, which has important value in clinical application.

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## 青光眼心理状况分析及通过青光眼俱乐部对患者进行心理治疗的效果分析

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#### 摘要

**目的:**研究和分析青光眼患者的心理特点及青光眼俱乐部宣教和心理治疗在改善原发性青光眼患者的心理状况中起到的作用。

**方法:**选择眼科门诊初诊原发性青光眼患者100例为研究对象,随机分为实验组(50例)和对照组(50例)。利用国际标准的SDS自评量表、SAS自评量表、SCL90自评量表进行心理测试。实验组在常规青光眼治疗外,进行半年青光眼俱乐部宣教及心理治疗,对照组仅进行常规青光眼治疗。半年后再次进行心理测试,利用软件进行分析。

**结果:**实验组经过青光眼心理治疗后的患者的心理状况及较初诊时有明显改善( $P<0.05$ );实验组患者较之对照组心理状况改善明显( $P<0.05$ )。青光眼心理具备八种心理特点,其中抑郁为主要心理症状。

**结论:**以青光眼俱乐部为平台的青光眼宣教和心理治疗在原发性青光眼患者的治疗和日常保健中起到了重要的作用,应当积极推广。

**关键词:**青光眼俱乐部;心理治疗;抑郁