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Mediation Effect of Resilience Between Social Support and Depression Symptoms in Patients With Strabismus: A Cross-Sectional Study

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Purpose: The prevalence of depression symptoms in patients with strabismus is high. This study aimed to examine the relationship between social support, resilience, and depression symptoms in patients with strabismus and how the relationship between social support and depression symptoms is mediated by resilience.

Patients and Methods: A cross-sectional study was conducted among adult patients undergoing strabismus surgery at an ophthalmic centre in Guangzhou, China, between March 2021 and May 2023. Patients completed the Self-Rating Depression Scale (SDS), Social Support Rating Scale, and Connor-Davidson Resilience Scale. Multiple linear regression and structural equation modeling explored the relationship between social support, resilience, and depression symptoms.

Results: Of the 200 patients, 28.5% had depression symptoms (21.5% mild, 6.0% moderate, and 1.0% severe). The mean SDS score (45.50 ± 11.60) was significantly higher than in the healthy reference group ($p < 0.001$). Social support ($\beta=-0.407$, $P<0.001$) and resilience ($\beta=-0.367$, $P<0.001$) were predictors of depression symptoms, which explained 44.2% of all variations. Resilience partially mediated between social support and depression symptoms, accounting for 22.22% of the total effect (−1.543/-6.944).

Conclusion: Resilience mediates the relationship between social support and depression symptoms in patients with strabismus. The findings of the present study highlight the importance of social support and psychological resilience in improving depressive symptoms in patients with strabismus.

Keywords: strabismus, depression, social support, resilience, mediation effect

Introduction

Strabismus is defined as any deviation of the binocular alignment that can be the cause or the effect of poor binocularity.[1] The prevalence of strabismus in the general population has been reported to range from 2% to 5%.[2,3] Strabismus includes manifest strabismus and latent strabismus. Patients with manifest strabismus experience noticeable appearances, poor psychosocial performance, impaired binocular vision and accompanying symptoms, which may lead to depression.[4,5] The prevalence of depression in patients with strabismus is high. A diverse and nationwide cohort has reported a higher prevalence of depression in adults with strabismus compared with adults without strabismus (33% vs 14%).[6] Depression, manifested by low mood or lack of interest and pleasure, has detrimental effects on patients' psychosocial health and quality of life.[7] Previous studies revealed that depression was associated with alcohol consumption, internet addiction,

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and social phobia.[8–10] Even worse, depression can be accompanied by varying degrees of cognitive and behavioral changes and may increase the risk of disability and suicide.[11,12]

Psychosocial stress theory identifies social support as a protective factor against depression.[13,14] Social support refers to the interpersonal resources accessed and mobilised when individuals attempt to deal with everyday stresses and strains of life.[13] Social support can provide reassurance, clarification, discussion, and stability during stressful events. Patients with depression who have poorer social support have worse outcomes in terms of clinical symptoms, recovery, and social functioning. Various social support interventions have been proven to be effective in reducing depression.[15] Wang's study showed that strabismus adults had a strong desire to get involve in in social activities, and they believed that interaction with family and friends was a key source of happiness and life satisfaction.[4] However, due to social prejudice against strabismus, adults with manifest strabismus may reduce or even avoid social activities. It was reported that social phobia was a frequent psychiatric comorbidity in strabismic adults.[10] Patients had experienced staring from others, avoided social situations, and were uncomfortable with photography. They tended to conceal their strabismus, refrain from making eye contact, and had difficulties in handling intimate relationships.[16]

Resilience is another protective factor against depression.[17] Resilience refers to positive adaptation or the ability to maintain or regain mental health despite experiencing adversity.[18] Resilience plays a role in planning and preparing for future crises (planned resilience) and adapting to chronic stress and acute shock (adaptive resilience).[19] It is assumed that resilience may moderate depression by promoting habituation to stressors, encouraging efficacious coping behaviors, and prompting cognitive reappraisal away from depressive mood states.[20] Previous studies have indicated that having a high level of resilience was associated with less depressive mood.[21–23]

Currently, previous studies have investigated the resilience of patients with open ocular trauma,[24] glaucoma[25] and cataracts,[26] but few have explored it in those with strabismus. Although Wang's study[25] has indicated that resilience mediated the relationship between social support and quality of life in primary glaucoma patient, the roles of social support and resilience in depression among patients with strabismus remain unclear. Therefore, this study aimed to examine the relationship between social support, resilience, and depression symptoms in patients with strabismus and how the relationship between social support and depression symptoms is mediated by resilience.

Material and Methods

Study Design and Patients

This cross-sectional study was conducted between March 2021 and May 2023 at an ophthalmic centre in Guangzhou, China. This centre provides the leading strabismus service in mainland China and sees approximately 70,000 patients with strabismus a year. The inclusion criteria were (1) a diagnosis of manifest strabismus and listed for strabismus surgery, and (2) 18 years of age and older. Patients were excluded if they had systemic disease, other facial or ocular abnormalities, severe cognitive or language impairments. There were 456 eligible participants, out of which 209 were included in the study, and 200 completed the analysis (Figure 1).

The structural equation model (SEM) was used to explore the relationship between social support, resilience, and depression symptoms in the present study. To ensure the estimation stability, the sample size of SEM should be at least 200.[27]

Measurements

Self-Rating Depression Scale

The Self-Rating Depression Scale (SDS) was used to measure depression symptoms in the present study.[28] The SDS consists of 20 items. Items 2, 5, 6, 11, 12, 14, 16, 17, 18 and 20 are reverse-scored. The total scores range from 25 to 100. Higher scores indicate higher levels of depression symptoms. An SDS standard score ≥53 suggests the presence of depression symptoms. Scores between 53–62 points indicate mild clinically significant depression, those between 63–72 points indicate moderate clinically significant depression symptoms, and scores of 73 or more indicate severe clinically significant depression symptoms.[29] The Chinese version of the SDS has demonstrated good reliability and validity with Cronbach's α coefficient of 0.83.[30] The Cronbach's α coefficient in this study was 0.80.

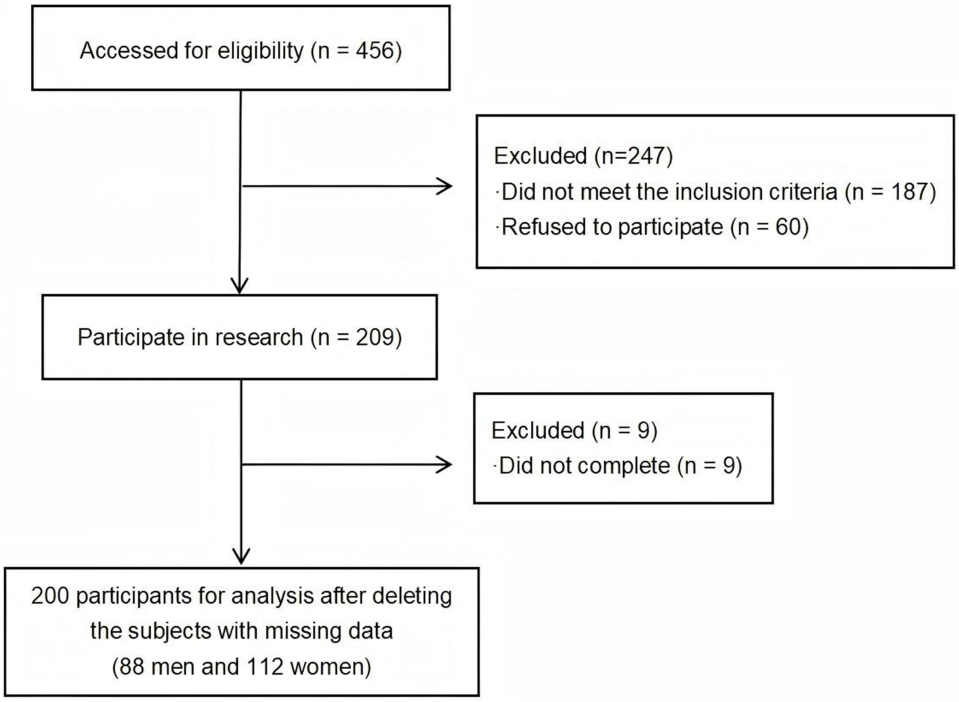

Figure 1 Flowchart of the study.

Social Support Rating Scale

The Social Support Rating Scale (SSRS) was developed by Xiao,[31] widely used to assess the level of social support in China. It contains ten items, with high scores indicating better social support. The 2-month test-retest reliability was 0.92, and the internal consistency reliability was 0.89.[31] Based on previous research, social support can be classified into three categories: low (<33), moderate (33–45), and good (>45) social support.[32] The Cronbach's α coefficient in this study was 0.71.

Connor-Davidson Resilience Scale

The Chinese version of the Connor-Davidson Resilience Scale (CD-RISC) was used to measure resilience.[33] The scale comprises 25 items. Each item was evaluated using a 5-point Likert-type scale. The total scores range from 0 to 100. Higher scores indicate a higher level of resilience. The Cronbach's α coefficient of the scale was 0.89.[33] The Cronbach's α coefficient in this study was 0.91.

The sociodemographic data sheet included questions on gender, age, marital status, education, employment, monthly household income, residence, and payment for medication. The clinical characteristics, including aetiology of strabismus, time since strabismus onset, type of strabismus, prism dioptre (PD) near (horizontal), diplopia, amblyopia, and the number of operations performed, were obtained from the patient's medical records.

Ethical Consideration and Data Collection Procedure

This study protocol was reviewed and approved by the Ethics Committee of the Zhongshan Ophthalmic Center (NO. 2023KYPJ271). The research conforms to the provisions of the Declaration of Helsinki in 1995 (as revised in Edinburgh 2000). Two clinical nurses from the Strabismus Department were selected as research assistants (RA). The RAs were trained to explain the purpose of the survey to the participants before the study. All eligible patients at the Strabismus Department were invited to participate in the study. After obtaining written informed consent, the patients were asked to complete the questionnaires and return them to the RAs. All questionnaires were completed prior to surgery.

Statistical Analysis

The data were analysed using SPSS 25.0 and AMOS 28.0. The normality of the distributions of the study variables was checked. According to previous research,[34] variables are considered to approximate a normal distribution when the absolute value of kurtosis is less than 7 and the absolute value of skewness is less than 2. Descriptive statistics were used for the sociodemographic and clinical characteristics and the study variables. A two-sample *t*-test or one-way analysis of variance was used to compare the depression symptoms among different groups of variables. Pearson's correlation analysis was used to analyse the correlation between depression symptoms, resilience, and social support. Multiple linear regression was used to analyse factors related to depression symptoms. Candidate variables with $P < 0.1$ in the univariate analysis were included in the multivariable model. The level of statistical significance was set at $P < 0.05$. AMOS 28.0 was used to construct SEM to explore the relationships among depression symptoms, social support, and resilience. The fitting index (χ^2/df), root mean square error of approximation (RMSEA), goodness of fit index (GFI), adjusted goodness of fit index (AGFI), comparative fit index (CFI), Tucker–Lewis index (TLI) were used to evaluate the goodness of model fit. The parameter estimation was assessed using the maximum likelihood (ML). Bootstrapping with 5000 replications was conducted to estimate the indirect effect with 95% confidence interval (CI). In case of missing data, subjects with missing data were directly deleted, and only subjects with completed data were included for statistical analysis.

Results

Patient Characteristics

Table 1 presents the characteristics of the participants. The patients ranged from 18 to 54 years, with an average age of (28.75±8.20) years. The majority were female (56.0%), unmarried (64.0%), college and beyond (56.5%), and urban residence (80.0%). The response rates of SDS, SSRS, CD-RISC scale were 99.0%, 98.1%, 98.6%, respectively.

Depression Symptoms, Social Support and Resilience of Patients With Strabismus

Table 2 shows the mean scores for depressive symptoms, social support, and resilience. The mean score of SDS was 45.50±11.60 (range from 25 to 100). The proportion of patients with depression symptoms in this study was 28.5%; among them, 21.5% had mild depression, 6.0% had moderate depression, and 1.0% had severe depression. The mean score of social support was 37.55±8.18 (range from 23 to 58). Among the participants, 27.5% had low social support, 54.5% had moderate social support, and 18.0% had good social support. The mean score of resilience was 63.80±14.16 (range from 0 to 100). A total of 46 participants (23.0%) had low resilience; 105 (52.5%), moderate resilience; and 49 (24.5%), high resilience.

Univariate Analysis of Depression Symptoms, Social Support and Resilience in Patients With Strabismus

Table 1 presents the univariate analyses of depression symptoms, social support and resilience. The results of univariate analysis showed that there were statistically significant differences in depression symptoms among patients with different ages, education levels and residence ($P < 0.05$), while there was no statistically significant difference in depression symptoms among other characteristics. Significant differences were observed in social support among age, marital status, and time since strabismus ($P < 0.05$). And significant differences were observed in resilience among gender, age, education and residence ($P < 0.05$).

Correlation Analysis of Depression Symptoms, Social Support and Resilience in Patients With Strabismus

The result of correlation analysis showed that depression symptoms were negatively correlated with social support ($r=-0.588$, $P < 0.001$) and resilience ($r = -0.568$, $P < 0.001$), as shown in Table 2.

Table 1 Sociodemographic and Clinical Characteristics of the Participants and Univariate Associations of Sociodemographic and Clinical Characteristics With Depression Symptoms, Social Support and Resilience (N = 200)

Variables	n (%)	Depression Symptoms			Social Support			Resilience		
		Mean ± SD	t/F	*P*	Mean ± SD	t/F	*P*	Mean ± SD	t/F	*P*
Gender			1.459	0.228		0.002	0.964		4.180	0.042
Male	88 (44.0)	44.39±11.15			37.58±7.86			66.09±14.29		
Female	112 (56.0)	46.38±11.91			37.53±8.454			62.00±13.85		
Age (years)			2.856	0.038		11.671	<0.001		4.231	0.006
<30	120 (60.0)	47.15±11.16			35.15±7.21			61.73±13.54		
30–39	55 (27.5)	44.35±12.55			40.07±8.22			64.38±14.76		
40–49	20 (10.0)	40.08±9.99			42.60±8.42			71.90±13.42		
>50	5 (2.5)	40.35±10.05			47.20±5.07			74.60±10.90		
Marital status			3.046	0.082		27.946	<0.001		3.898	0.050
Not married	128 (64.0)	46.57±10.89			35.40±7.02			62.33±13.51		
Married	72 (36.0)	43.60±12.61			41.38±8.72			66.42±14.99		
Education			4.551	0.012		0.820	0.442		3.946	0.021
Less than high school	40 (20.0)	48.97±11.63			36.08±9.18			59.05±15.89		
High school	47 (23.5)	47.59±12.36			37.79±8.03			62.51±14.58		
College and beyond	113 (56.5)	43.41±10.89			37.97±7.87			66.02±12.93		
Employment			0.171	0.679		2.047	0.154		0.493	0.483
Employed	137 (68.5)	45.27±11.65			38.11±8.61			64.28±13.57		
Underemployed or retired	63 (31.5)	46.00±11.65			36.33±7.06			62.76±15.43		
Average family monthly income (yuan)			0.480	0.619		1.231	0.294		0.879	0.417
<2300	83 (41.5)	45.84±11.22			37.59±7.84			63.92±14.46		
2300–5000	56 (28.0)	46.29±11.13			36.29±7.85			61.91±14.20		
>5000	61 (30.5)	44.32±12.57			38.66±8.86			65.38±13.72		
Residence, city/rural			4.615	0.033		2.440	0.120		4.000	0.047
City	160 (80.0)	44.63±11.69			38.00±8.21			64.79±13.61		
Rural	40 (20.0)	48.99±10.63			35.75±7.88			59.83±15.74		
Payment for medication			2.326	0.129		0.604	0.438		0.001	0.976
Public medical care	25 (12.5)	48.80±12.67			36.36±8.69			63.72±15.10		
Self-paying	175 (87.5)	45.03±11.39			37.72±8.11			63.81±14.07		
Aetiology of strabismus			2.607	0.108		0.904	0.343		2.607	0.108
Primary	107 (53.5)	46.52±12.12			37.04±8.11			62.30±14.04		
Secondary	93 (46.5)	44.34±10.91			38.14±8.26			65.53±14.17		
Time since strabismus (years)			1.629	0.184		4.893	0.003		1.902	0.131
<10	50 (25.0)	44.39±10.70			38.72±7.93			65.22±14.58		
10–19	63 (31.5)	46.04±11.23			36.03±7.54			62.59±13.61		
20–29	52 (26.0)	47.84±12.58			35.65±8.32			61.17±14.50		
≥30	35 (17.5)	42.64±11.63			41.43±8.140			67.86±13.45		
Strabismus type			1.275	0.260		0.551	0.459		0.006	0.941
Esotropia	65 (32.5)	44.17±10.88			38.17±7.58			63.91±13.66		
Exotropia	135 (67.5)	46.14±11.92			37.25±8.46			63.75±14.44		
Prism dioptre near (horizontal) ($^{\Delta}$)			0.449	0.639		0.322	0.725		0.797	0.452
≤30	59 (29.5)	44.77±12.60			37.32±8.67			63.58±16.69		
31–60	99 (49.5)	45.33±10.65			37.30±7.41			64.87±12.25		
>60	42 (21.0)	46.94±12.41			38.45±9.26			61.60±14.58		
Diplopia			0.243	0.623		0.134	0.714		2.955	0.087
Yes	40 (20.0)	46.31±10.92			37.98±7.88			67.23±13.65		
No	160 (80.0)	45.30±11.78			37.44±8.27			62.94±14.20		
Amblyopia			0.724	0.396		0.013	0.910		3.306	0.071
Yes	48 (24.0)	46.74±10.95			37.67±8.57			67.02±14.91		
No	152 (76.0)	45.11±11.80			37.51±8.08			62.78±13.81		

(*Continued*)

Table 1 (Continued).

Variables	n (%)	Depression Symptoms			Social Support			Resilience		
		Mean ± SD	t/F	*P*	Mean ± SD	t/F	*P*	Mean ± SD	t/F	*P*
Number of operations performed			0.892	0.411		0.453	0.636		1.785	0.170
0	107 (53.5)	46.52±12.12			37.04±8.11			63.30±14.04		
1	65 (32.5)	44.47±10.73			38.18±8.02			64.58±14.48		
≥2	28 (14.0)	44.04±11.50			38.04±8.93			67.71±13.41		

Table 2 Correlations Among Depression Symptoms, Social Support, and Resilience in Patients With Strabismus (N = 200)

Variables	Scales	Mean ± SD	Depression Symptoms	Social Support	Resilience
Depression symptoms	Self-Rating Depression Scale	45.50±11.60	1.000	-	-
Social support	Social Support Rating Scale	37.55±8.18	−0.588**	1.000	-
Resilience	Connor-Davidson Resilience Scale	63.80±14.16	−0.568**	0.493**	1.000

Note: **P<0.01.

Table 3 Multiple Linear Regression Analysis of Depression Symptoms in Patients With Strabismus (N = 200)

Model	Unstandardized Coefficients		Standardized Coefficients	t	*P*	95% CI for B	
	B	Std. Error	Beta			*Lower Bound*	*Upper Bound*
(Constant)	86.343	3.291	–	26.235	<0.001	79.852	92.833
Social support	−0.576	0.086	−0.407	−6.679	<0.001	−0.747	−0.406
Resilience	−0.301	0.050	−0.367	−6.035	<0.001	−0.399	−0.203

Notes: R^2=0.447, adjusted R^2=0.442; F=79.772, P<0.001.

Multiple Regression Analysis of Depression Symptoms in Patients With Strabismus

The results of the multiple linear regression analysis showed that social support and resilience were factors influencing depression symptoms, which could explain 44.2% of the depression symptoms of patients with strabismus (Table 3).

The Mediating Effect of Resilience on Depression Symptoms and Social Support

The SEM of depression symptoms, social support, and resilience in strabismus with patients was established, and AMOS 28.0 was used to test the model. The results of each path in the model are shown in Figure 2. The model in this study was well fitted: χ^2/df = 2.003, RMSEA =0.071, GFI=0.967, AGFI=0.922, CFI=0.979, TLI=0.964.

The AMOS results showed that social support and resilience directly negatively affected depression symptoms. Bootstrap tests were conducted to test the mediation effect. The results of these tests are shown in Table 4. The results showed that the mediating effect of resilience on the relationship between social support and depression symptoms was −1.543, and the 95% CI did not contain 0 [−3.113, −0.362], indicating that the mediating effect was significant. And the intermediate effect accounted for 22.22% of the total effect (−1.543/-6.944). After controlling the mediator resilience, the direct effect size of depression symptoms, which corresponded to the independent variable social support, was −5.402, and the 95% CI did not contain 0 [−7.921, −3.506].

Discussion

This study explored the relationship between social support, resilience, and depression symptoms in patients with strabismus, and examined the mediating roles of resilience using SEM. This present study found that the prevalence of clinically significant depression symptoms in patients with strabismus was high. Among the 200 patients, 28.5% had clinically significant depression symptoms. The level of depression symptoms in the patients with strabismus was similar

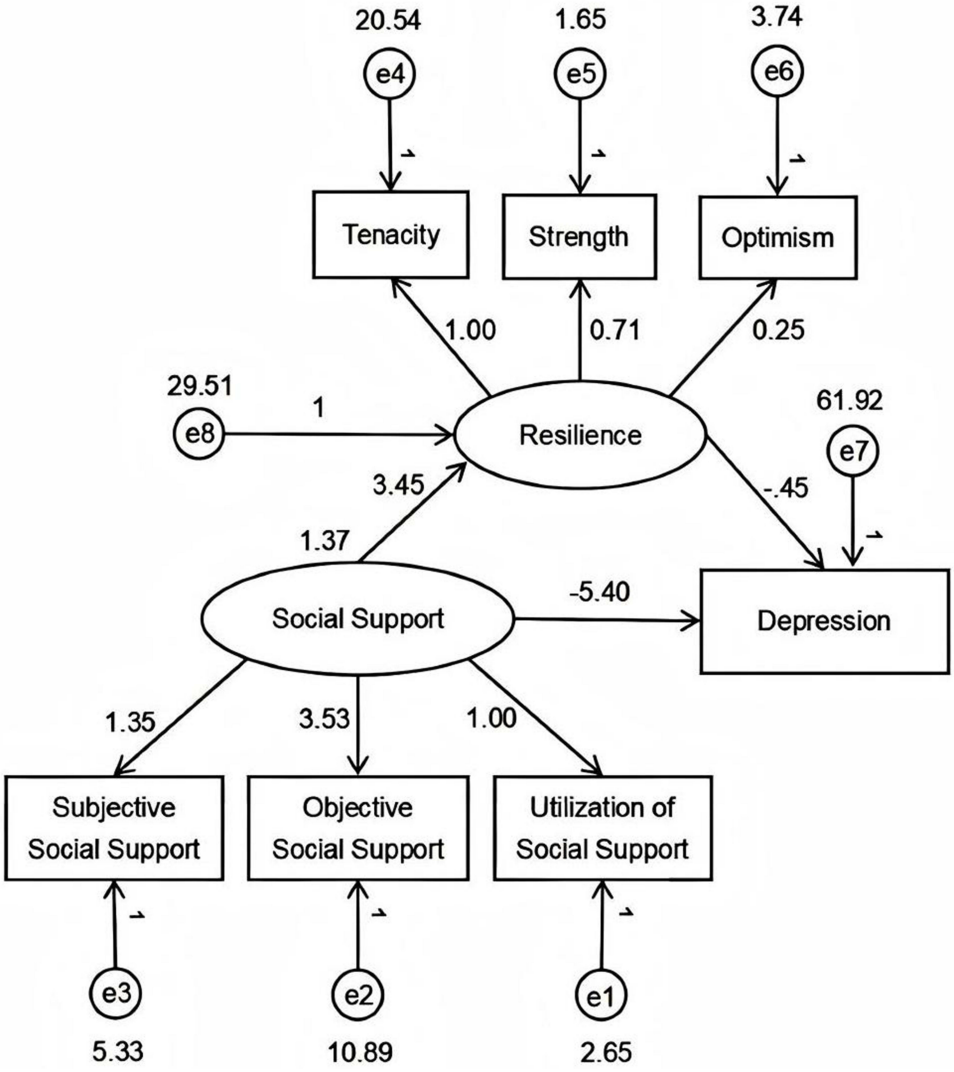

Figure 2 The mediating effect model of resilience between social support and depression symptoms in patients with strabismus.

to the previous study,[35] and the SDS score was higher than the national norm standard (41.88±10.57).[36] In addition, the proportion of clinical depression in patients undergoing strabismus surgery in this study was higher than that of postoperative patients reported previously.[37] In this study, the majority of adults were female (56.0%), under the age of 30 (60.0%) and unmarried (64.0%). It was observed that females with strabismus exhibited more severe psychosocial challenges and sought healthcare services significantly more frequently compared to males.[38,39] Regarding the impact of strabismus, in adolescent patients, it has been observed to have psychological consequences. The visible eye deviation caused by strabismus served as a strong indicator of psychological distress.[40] Unmarried patients often focused on

Table 4 Analysis of the Mediating Effect of Social Support and Depression Symptoms in Patients With Strabismus (N=200)

Social Support →Depression Symptoms	Point Estimate	Product of Coefficients		Percentile 95% CI		Bias-corrected Percentile 95% CI	
		SE	Z	Lower	Upper	Lower	Upper
Total effect	−6.944	0.923	−7.523	−9.054	−5.429	−9.069	−5.441
Direct effect	−5.402	1.126	−4.798	−7.980	−3.532	−7.921	−3.506
Indirect effect	−1.543	0.696	−2.217	−2.960	−0.248	−3.113	−0.362

Notes: Unstandardized estimating of 5000 bootstrap sample.

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marriage and love, and were more concerned about their appearance. Strabismus patients may face discrimination due to their appearance, making it harder to find ideal spouses and more susceptible to depression.

In this study, the mean score of social support was 37.55±8.18, which indicated that patients with strabismus had a moderate level of social support. The level of social support in the patients with strabismus was similar to the previous studies examining patients with glaucoma[25] and dry eye disease.[41] A mixed-method study has illustrated that patients with strabismus may suffer from social discrimination associated with strabismus, which is usually presented in three ways: teasing and mocking, being misunderstood, and being hidden.[4] Such social biases can potentially lead to social alienation and social phobia.[10,42] This may be the reason why patients with strabismus receive less social support from interacting with others.

The result of this study indicated that the resilience of patients with strabismus was at a moderate level, with a mean score of 63.80 (SD, 14.16). This level was close to that of male patients with open ocular trauma,[24] and higher than that of glaucoma[25] and cataracts.[26] It is plausibly attributable to the relatively high educational attainment of the participants in this research, with 56.5% having attained college degrees or above. Participants with higher education demonstrated higher resilience levels.[43] This advantage may enable them to better acquire disease-related knowledge and formulate more proactive coping strategies. At present, the psychological intervention mechanism for patients with strabismus is still immature and cannot provide effective psychological assistance in China, which ultimately leads to a low level of resilience for these patients.

The results of this study showed that social support in strabismus patients was negatively correlated with SDS, which was consistent with studies in patients with age-related macular degeneration and diabetic retinopathy,[44] suggesting that the higher the level of social support, the lower the level of depression symptoms in patients. The literature on social support has proposed the "buffering support" model, which reflects that social support is beneficial only under conditions of high stress.[45] According to this model, patients with strabismus who had high levels of perceived social support may have fewer negative health effects after stressful life events. However, McBain's study[37] showed that higher levels of support from family members were associated with greater anxiety and depression in patients with strabismus, while support from friends was seen as positive and could improve quality of life and mood. In that case, it is recommended that people with strabismus should be encouraged to interact with others and perceive more social support from their friends.

Our results revealed that strabismus patients with a higher level of resilience were associated with a lower level of depression symptoms, which was similar to previous studies. In addition, SEM analysis showed that resilience played a partial mediating role between social support and depression symptoms in patients with strabismus. The results indicated that social support of strabismus patients could affect depression symptoms directly and could also influence depression symptoms through the mediating effect of resilience. Although few studies have investigated resilience in strabismus patients, studies have been reported on the mediating role of resilience in improving quality of life, self-concept clarity, and depression in other patients.[25,32,46] Strabismus patients with a high level of resilience may make good use of their social resources and actively cope with various stressors to reduce the occurrence of depression. Therefore, depression symptoms in patients with strabismus could be further improved by increasing their social support and resilience.

Mental health conditions are common in adults with strabismus from different sociodemographic backgrounds. Efforts are needed to improve mental well-being for this vulnerable population.[6] The prevalence of depression symptoms in patients with strabismus is higher than in the general population,[6] suggesting that healthcare professionals should screen for depression at the time of patient visits. The US Preventive Services Task Force (USPSTF) also recommends screening for depression in the adult population (B recommendation). And there is adequate evidence that depression screening programs in primary care or comparable settings improve health outcomes with moderate benefits.[47] If the strabismus patients screen positive, they should be referred to a setting that can provide the necessary care for appropriate diagnosis and treatment. In addition, this study confirmed the mediating effect of resilience in the effect of social support on depression symptoms by constructing SEM, and explained the mechanism of social support on depression symptoms partly. Interventions to improve patients' social support and resilience should be taken to effectively reduce depression symptoms.

There are some limitations to this study. The patients in this study were from only one ophthalmic centre in southern China, making the sample less representative, so multi-center studies can be carried out in the future. Due to recall bias, data on patients' diplopia duration were not collected in this study. And computed tomography of the orbits was required for special types of strabismus, so the data on patient's ocular muscle were also lacking. In the future, different strabismus types and features can be further explored. Furthermore, this study was a cross-sectional study, having

limitations in inferring causality. So longitudinal studies can be used to further explore the relationship between the three variables. Last but not least, this study showed that the resilience of strabismus patients played a partial mediating effect between social support and depression symptoms, suggesting that in addition to resilience, there may be other mediating variables between the two variables. Lau's study[48] also showed that the unstable reciprocal relationship between resilience and depressive symptoms over time suggests the presence of potential moderators that influence the relationship between resilience and depression. Therefore, the relevant mechanisms still need to be further explored.

Conclusion

In conclusion, depressive symptoms in patients with strabismus constitute a significant clinical concern, with an incidence rate of 28.5%, and are influenced by both social support and resilience. Given that resilience partially mediates the relationship between social support and depression symptoms, this finding has important implications for clinical practice and intervention strategies. It suggests that enhancing an individual's resilience may help alleviate depression symptoms by optimizing the provision and utilization of social support.

Data Sharing Statement

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Disclosure

The authors report no conflicts of interest in this work.

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