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Therapy-Related Symptoms and Sense of Coherence: The Mediating Role of Social Support and Hope in Lung Cancer Patients Undergoing Chemotherapy

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Aim: To investigate the current status of the sense of coherence in lung cancer patients undergoing chemotherapy and explore the mediating role of social support and hope in the relationship between therapy-related symptoms and sense of coherence.

Methods: We conducted a cross-sectional study to investigate lung cancer chemotherapy patients aged 18 years or older who completed at least two cycles of chemotherapy. Patients were recruited from the First Affiliated Hospital of Guangzhou Medical University's chemotherapy day ward from May to December 2023. Patients were required to complete a questionnaire that included the Sense of Coherence Scale, the Perceived Social Support Scale, the Herth Hope Index, and the Therapy-related Symptoms Checklist. The structural equation model was used to test the mediating role of social support and hope between therapy-related symptoms and the sense of coherence.

Results: A total of 241 patients were included. The scores of the sense of coherence, hope level, therapy-related symptoms, and social support were 68.79 ± 11.24, 38.94 ± 4.25, 11.53 ± 8.15, and 69.49 ± 8.15, respectively. Sense of coherence, social support, hope, and therapy-related symptoms were significantly related ($P<0.01$). Therapy-related symptoms had a direct negative influence on the sense of coherence [B=−0.144, 95% CI (−0.209, −0.070)]. Meanwhile, therapy-related symptoms influenced the sense of coherence via three pathways: independent mediation of social support [B=−0.021, 95% CI (−0.065, −0.002)], independent mediation of hope [B=−0.022, 95% CI (−0.057, −0.000)], and chain mediation of social support and hope [B=−0.012, 95% CI (−0.035, −0.002)].

Conclusion: Lung cancer patients undergoing chemotherapy experience a medium sense of coherence. This study's findings indicate that the relationship between therapy-related symptoms and sense of coherence is affected by the independent mediating effect of social support and hope and the chain mediating effect of social support and hope. Therefore, reducing the burden of their therapy-related symptoms, providing them with social support, and fostering their hope can enhance patients' sense of coherence and improve their quality of life.

Keywords: lung cancer, chemotherapy, sense of coherence, therapy-related symptoms, social support, hope, mediation analysis

Introduction

Lung cancer is a malignant tumor originating from the bronchial mucosa or glands of the lungs.[1] According to the report by the International Agency for Research on Cancer (IARC), 2.48 million new cases of lung cancer emerged worldwide in 2022.[2] Lung cancer is the first common cancer in the world. In 2022, 1.06 million new cases of lung cancer and 0.73 million deaths emerged in China. Lung cancer has become the most common and deadly malignant tumor,[3] posing a severe threat to the health of the Chinese people. Due to the lack of apparent characteristics in the early stage of lung cancer, more than 60% of patients are clinically diagnosed as advanced stage. Chemotherapy is one of the most important treatments for lung cancer patients at the advanced stage.[4] However, adverse reactions, high treatment costs, and uncertainty of patients' treatment during chemotherapy may easily lead to psychological disorders of different degrees,

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such as depression and anxiety.[5] These psychological disorders not only can produce adverse effects on the treatment effect and health of body and mind but will further affect the patient's quality of life.[6] Therefore, it is essential to pay attention to the mental health status of lung cancer patients undergoing chemotherapy.

Sense of Coherence (SOC) refers to pervasive, enduring and dynamic confidence held by individuals in the face of internal and external environmental stimuli.[7] Individuals' SOC comprises comprehensibility, manageability, and meaningfulness. Comprehensibility implies that the stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable. Manageability implies that the resources are available to one to meet the demands posed by these stimuli. Meaningfulness implies that these demands are challenges worthy of investment and engagement.[8] SOC, as a relatively stable positive psychology, can protect individuals from stress, reduce psychological distress, and reduce the risk of various health problems. A stronger SOC signified better physical and mental health and greater utilization of mature defense mechanisms.[9] Therefore, to reduce the risk of depression and anxiety and improve the quality of life, it is vital to understand the level of SOC of lung cancer patients undergoing chemotherapy and formulate timely and effective intervention strategies.

Antonovsky proposed the Salutogenic Model of Health in 1987.[7] SOC is the core of this model. In this model, Generalized Resistance Resource (GRRs) and Generalized Resistance Defect (GRDs) are two key concepts closely related to SOC. GRRs are the resources that individuals use to manage their tensions and challenges, and GRDs are the lack of those resources. These resources and deficits can be internal to the individual (such as hope, gratitude) or external (such as social support, negative events), negative events such as increased therapy-related symptoms and decreased cognitive function. They directly affect the level of SOC of the individual. This theoretical model guides this research.

Therapy-related symptoms refer to patients receiving chemotherapy therapy, which can cause a series of painful side effects to patients.[10] These symptoms not only cause physical discomfort, such as coughing, pain, loss of appetite, and nausea, but they can also lead to feelings of sadness and create a significant psychological burden.[11] Studies have shown that therapy-related symptoms are influenced by physiological, mental, psychological, environmental, and social factors.[12–14] Scholars have focused on patients with digestive tract cancer and found that symptoms are negatively correlated with SOC.[15] Severe therapy-related symptoms can increase the burden on patients, leading to poor coping strategies and diminished SOC. Therefore, we hypothesize that therapy-related symptoms could negatively predict SOC in lung cancer patients undergoing chemotherapy.

Social support refers to the material or spiritual assistance individuals receive from relatives, friends, or society when facing pressure.[16] Research has shown a negative correlation between therapy-related symptoms and social support.[17] When symptoms are more severe, patients are more concerned about the severity of symptoms and the life troubles caused by symptoms and thus perceive less social support. A qualitative study[18] has shown that patients with lung cancer undergoing chemotherapy received inadequate support, particularly in terms of medical information and emotional support. Evidence shows that higher levels of social support are associated with higher levels of SOC.[19] Therefore, we hypothesize that social support would mediate the relationship between therapy-related symptoms and SOC.

Hope refers to the beliefs and strategies individuals effectively develop to cope with illness.[20] It can enable individuals to maintain confidence in difficult situations, persist in pursuing goals, and help them face unfavorable conditions.[21] Studies have shown that more severe therapy-related symptoms are associated with lower levels of hope; therapy-related symptoms significantly negatively impact hope.[17] Previous studies have shown that higher levels of hope in patients are associated with higher levels of SOC.[22] Therefore, we hypothesize that hope would mediate the relationship between therapy-related symptoms and SOC.

Hope and social support have a positive relationship with the SOC,[22] so it is reasonable to assume that these two constructs are interconnected. Previous studies have shown that social support positively correlates with hope.[23,24] It is believed that individuals who feel supported are more likely to develop hope in capacities and strategies to deal with complex problems compared to those who feel less supported. Therefore, we hypothesize that social support and hope would mediate the relationship between therapy-related symptoms and SOC.

Therapy-related symptoms, social support, and hope are all essential factors that affect SOC. However, the structural equation model did not find a path relationship between therapy-related symptoms and SOC.[25] Meanwhile, there is a lack of research on the mechanisms of these variables. Thus, this study aims to examine the relationships among therapy-related

symptoms, social support, hope, and SOC using a structural equation model. Based on the literature review and theoretical framework, we hypothesize that (1) social support would mediate the relationship between therapy-related symptoms and SOC; (2) hope would mediate the relationship between therapy-related symptoms and SOC; (3) social support and hope would together mediate the relationship between therapy-related symptoms and SOC.

Methods

Study Design and Participants

We conducted a cross-sectional descriptive study from May to December 2023 in Guangzhou, Guangdong Province, China. Participants were recruited using convenience sampling in the chemotherapy day ward of the First Affiliated Hospital of Guangzhou Medical University. Participants were selected from patients who met the inclusion criteria. The inclusion criteria were as follows: (1) pathologically proven lung cancer, (2) age≥18 years, (3) completion of at least two cycles of chemotherapy, and (4) No cognitive impairment or other mental illness. The exclusion criterion is that patients were not aware of the diagnosis.

Assessment Measures

Demographic and Clinical Characteristics

Patients self-reported Demographic data, including gender, age, educational level, and marital status. Clinical data, including cancer stage, metastasis, and disease duration, were derived from medical records.

Sense of Coherence Scale (SOC-13)

The Sense of Coherence scale (SOC-13) was compiled by Antonovsky in 1993 to assess an individual's ability to use available resources to adapt to adverse situations.[8] The Chinese version of the sense of coherence scale was translated and revised by Chinese scholar Bao Leiping in 2006.[26] The scale consists of 13 items divided into three dimensions: comprehensibility, manageability, and meaningfulness. The comprehensibility dimension concludes five items (eg, "Has it happen in the past that you were surprised by the behavior of people whom you thought you knew well?"). The manageability dimension concludes four items (eg, "Do you have the feeling that you are being treated unfairly?"). The meaningfulness dimension concludes four items (eg, "Do you have the feeling that you do not care about what goes on around you?"). Each item was scored on a 7-point Likert scale; five items (namely, items 1,2,3,8 and 13) were reversed in scoring. The overall score ranged from 13 to 91 (low level: 13–63, medium level: 64–79, and high level: 80–91), with a higher score indicating higher sense of coherence. In this study, the Cronbach's alpha coefficient was 0.825.

Perceived Social Support Scale (PSSS)

Zimet compiled the perceived social support scale in 1990.[16] The Chinese version of the perceived social support scale was translated and revised by Jiang Qianjin in 1996.[27] This scale includes 12 items in three dimensions. The family dimension comprises four items (eg, "My family really tries to help me"). The friend dimension has four items (eg, "I can count on my friends when things go wrong"). The significant other dimension has four items (eg, "There is a special person who is around when I am in need"), with each response ranging from 1 (strongly disagree) to 7 (strongly agree). The total scores ranged from 12 to 84 (low level: 12–36, medium level: 37–60, and high level: 61–84), with higher scores reflecting higher levels of social support. In this study, the Cronbach's alpha coefficient was 0.863.

Herth Hope Index (HHI)

The scale was designed by Herth in 1992 and comprised three dimensions with 12 items.[20] In 2000, Zhao Haiping adapted the scale and confirmed its reliability and validity within the Chinese population.[28] The Positive readiness and expectancy dimension has four items (eg, "I often recall the previous happy time"). The temporality and future dimension has four items (eg, "I have a positive attitude towards life"). The interconnectedness dimension has four items (eg, "I feel very alone"). Each item uses a Likert 4-level scoring, from 1 (strongly disagree) to 4 (strongly agree). The total scores ranged from 12 to 48 (low level: 12–23, medium level: 24–35, and high level: 36–48), with a higher score reflecting higher hope. In this study, the Cronbach's alpha coefficient was 0.862.

Therapy-Related Symptoms Checklist (TRSC)

Williams compiled the therapy-related symptoms checklist in 2001.[29] The Chinese version of this scale was translated and examined by Williams in 2010.[30] The scale consists of 25 items. It rates the severity of symptoms experienced during cancer treatment from 0 (no symptom) to 4 (very severe). The scale's scores range from 0 to 100. The higher the total score, the higher the severity of the symptom. In this study, the Cronbach's alpha coefficient was 0.822.

Data Collection

In the chemotherapy day ward, a convenient sampling method was used to select lung cancer patients undergoing chemotherapy and to give face-to-face paper questionnaires to collect data. Before commencing data collection, the researcher explained the study's objectives, methodology, potential risks, and benefits. They also ensured voluntary participation and confidentiality. Each patient signed an informed consent form before participating in this study. During the survey, the researcher individually explained each item to some patients with reading or writing difficulties or helped them complete the questionnaire through verbal responses. After completing the questionnaire, the investigator collected the completed questionnaires on-site and checked them immediately.

Statistical methods

Data analyses were conducted using IBM SPSS 25.0 and Amos 25.0. The mean, standard deviation (SD), percentage (%), and frequency describe demographic and clinical characteristics. The scores of each scale were presented using means and standard deviations. Before the analysis, we conducted tests for normality and variance homogeneity to ensure the validity of our statistical methods. The one-way ANOVA, independent sample *t*-test, and Pearson correlation were used to explore the relationship between the SOC and other variables. In multiple regression analysis, variables with statistical significance in the results of univariate or correlation analysis are selected as independent variables. P value<0.05 indicated statistical significance.

The structural equation model explored the relationship between SOC and hope, therapy-related symptoms, and social support. The following indicators were selected to evaluate the suitability of the data to the model: $\chi 2$ /df, RMSEA, IFT, NFI, TLI, GFI, CFI, and AGFI. The maximum likelihood method was used to estimate the model, and the deviation-corrected percentile Bootstrap method (5000 repeated extractions) was adopted to verify the mediation effect. The confidence interval was set at 95%. P value <0.05 indicated statistical significance.

Ethical Considerations

The study was approved by the Ethics Committee of The First Affiliated Hospital of Guangzhou Medical University (NO: ES-2024-K099-01). All procedures conducted in the study adhered to ethical standards and the Helsinki Declaration. Informed consent was obtained from patients before data collection.

Results

Demographic and Clinical Characteristics

As shown in Table 1, the age of 241 participants ranged from 21 to 78 years, with an average age of 57.20 (SD=10.05) years. Most participants were male (72.2%) and married (93.4%). Fifty-one (21.2%) participants had completed college or above. The majority of the participants developed metastasis (71.4%) and Cancer Stage IV (63.5%). Participants' disease duration ranged from 1 to 104 months, with a mean disease duration of 13.54 (SD=16.66). One-way ANOVA and the independent sample *t*-test were conducted to evaluate the effects of sociodemographic characteristics on the SOC of participants with lung cancer undergoing chemotherapy. There were no significant differences in the effect of sex, age, education level, marital status, metastasis, cancer stage, or disease duration on SOC in the descriptive statistics (P>0.05).

Factors Associated with the Sense of Coherence

The mean score of SOC was 68.79±11.24. The mean scores of PSSS, HHI, and TRSC were 69.49±8.15, 38.94±4.25, and 11.53±8.15, respectively. The PSSS and HHI scores were positively associated with the SOC scores. The score of TRSC was negatively associated with the scores of SOC, PSSS, and HHI. More details were shown in Table 2.

Table 1 Demographic and Clinical Characteristics of Participants and the Univariate Analysis of the Sense of Coherence (n=241)

Demographic Variables	n (%)	Sense of Coherence	
		Mean ± SD	P
Sex			0.609[a]
Male	174 (72.2)	69.02±10.98	
Female	67 (27.8)	68.19±11.96	
Age (Years)			0.890[a]
≤60	144 (59.8)	68.88±10.46	
>60	97 (40.2)	68.67±12.36	
Educational level			0.287[b]
Primary school or below	50 (20.7)	68.32±9.67	
Junior high school	71 (29.5)	69.82±12.24	
High school	69 (28.6)	69.90±11.02	
College or above	51 (21.2)	66.33±11.42	
Marital status			0.150[a]
Married	225 (93.4)	69.07±11.22	
Single/widowed/divorced	16 (6.6)	64.88±11.14	
Cancer Stage			0.286[b]
Stage I	14 (5.8)	71.93±10.07	
Stage II	19 (7.9)	68.37±9.60	
Stage III	55 (22.8)	70.73±11.10	
Stage IV	153 (63.5)	67.86±11.53	
Metastasis			0.804[a]
Yes	172 (71.4)	68.91±11.65	
No	69 (28.6)	68.51±10.22	
Disease Duration (Months)			0.091[b]
<3	37 (15.4)	69.32±9.42	
3–12	124 (51.5)	70.26±10.86	
13–35	59 (24.5)	65.90±12.00	
≥36	21 (8.7)	67.33±13.11	

Notes: [a]Independent Samples *t*-test; [b]One-way ANONA.

Table 2 The Correlation Between the Sense of Coherence Scale, Perceived Social Support Scale, Herth Hope Index, and Therapy-Related Symptoms Checklist

Variables	Mean±SD	SOC	PSSS	HHI	TRSC
SOC	68.79±11.24	1			
PSSS	69.49±8.15	0.322**	1		
HHI	38.94±4.25	0.412**	0.341**	1	
TRSC	11.53±8.15	−0.358**	−0.144*	−0.200**	1

Note: **P<0.01, *P<0.05.
Abbreviations: SOC, Sense of coherence; PSSS, Perceived social support scale; TRSC, Therapy-related symptoms checklist; HHI, Herth hope index.

The result of stepwise multiple linear regression analysis is shown in Table 3. SOC was used as the dependent variable, and the independent variables were analyzed through multiple linear regression using the forced entry method. Perceived Social Support scale (β=0.182, P=0.002), Herth Hope Index (β=0.295, P<0.001), and therapy-related symptoms checklist (β=−0.272, P<0.001) were predictors of SOC.

Table 3 Multiple Regression on the Sense of Coherence of Lung Cancer Patients Undergoing Chemotherapy

	B	SEE	β	t	P	95% CI
Constant	25.304	7.144		3.542	<0.001	11.230, 39.377
PSSS	0.251	0.081	0.182	3.083	0.002	0.091, 0.411
TRSC	−0.376	0.078	−0.272	−4.817	<0.001	−0.529, −0.222
HHI	0.781	0.158	0.295	4.957	<0.001	0.470, 1.091

Abbreviations: PSSS, Perceived social support scale; TRSC, Therapy-related symptoms checklist; HHI, Herth hope index; SEE, standard errors of estimation; CI, confidence interval.

Mediation Analysis

The goodness-of-fit model was as follows: $\chi 2/df = 1.673$ (eg, <3.0 for good fit), RMSEA=0.053 (eg, <0.06 for good fit), GFI=0.961 (eg, > 0.9 for good fit), AGFI=0.929 (eg, >0.9 for good fit), TLI=0.968 (eg, >0.9 for good fit), CFI=0.979 (eg, >0.9 for good fit), IFT=0.979 (eg, >0.9 for good fit). The structural equation model was shown in Figure 1. Hope had the strongest direct positive effect on the Sense of coherence, and its path coefficient was 1.017 ($P < 0.001$). Therapy-related symptoms and Perceived social support directly impacted the sense of coherence (path coefficients were −0.144 and 0.459, all $P < 0.05$). The total mediating effect was −0.056. The mediating effect of perceived social support and hope is significant, with mediating effect values of −0.021 and −0.022, respectively, which accounted for 10.5% and 11% of the total effect, respectively. The chain mediation effect is significant; the mediation effect value is −0.012, accounting for 6% of the total effect (Table 4).

Discussion

This study evaluated the relationship among therapy-related symptoms, social support, hope, and SOC. The research has found that these four variables are related, and therapy-related symptoms, social support, and hope are all predictors of SOC. A Structural equation model was established to evaluate therapy-related symptoms' direct and indirect effects on SOC. The model had a good fit with the data. Therapy-related symptoms had both direct and indirect effects on the SOC; additionally, social support and hope level had a mediating effect. The findings of the research suggested that the SOC in lung cancer patients undergoing chemotherapy can be improved through symptom management, raising patients' hope levels, and providing social support.

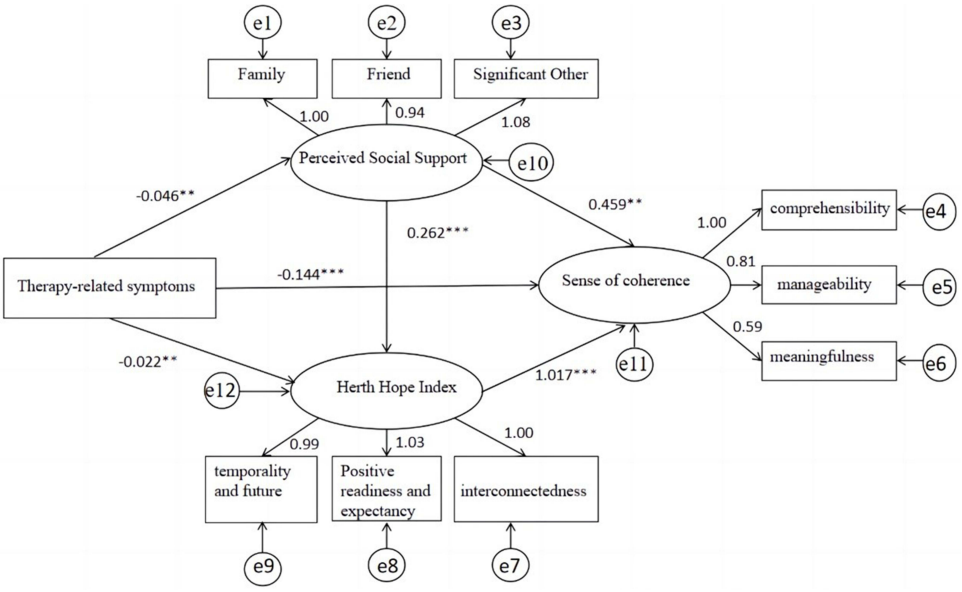

Figure 1 Structural equation model of the factors influencing the sense of coherence of the research subjects. ** *P*<0.01, ***P*<0.001.

Table 4 Bootstrap Analysis of the Significance Test of the Mediation Effect

Path	Effect Size	SE	95% CI		P
			Lower	Upper	
Total effects	−0.200	0.034	−0.267	−0.131	0.001
Direct effects	−0.144	0.036	−0.209	−0.070	0.002
Total indirect effects	−0.056	0.020	−0.104	−0.023	0.001
Ind1: Therapy-related symptoms→social support→ Sense of coherence	−0.021	0.015	−0.065	−0.002	0.025
Ind2: Therapy-related symptoms→ hope→ Sense of coherence	−0.022	0.014	−0.057	−0.000	0.048
Ind3: Therapy-related symptoms →social support→ hope→ Sense of coherence	−0.012	0.008	−0.035	−0.002	0.027

In this study, the score of SOC in lung cancer patients undergoing chemotherapy was (68.79±11.24 points), which was at a medium level. The result was similar to that in previous studies on patients receiving cancer chemotherapy (63.28±8.98)[31] and breast cancer (65.7±12.8).[32] Among the results of this study, it was found that lung cancer patients undergoing chemotherapy scored highest in comprehensibility (25.61±5.06) and lowest in meaningfulness (20.90±3.85). This is consistent with the results of Asaba.[31] High comprehensibility indicates that lung cancer patients undergoing chemotherapy understand their current situation, which may be linked to the high educational background of the survey participants. A higher manageability indicates that patients have a particular ability to mobilize resources. Harmonious family life and support from family members can enhance a patient's coping ability. The lowest score in meaningfulness signifies that patients' experience of long-term illness can make them feel that life is boring. This feeling may be linked to patients withdrawing from social interactions and the changes in self-image caused by the disease.

This study's total score of therapy-related symptoms was 11.53±8.1, lower than that of another study.[33] This may be because, in her research, most patients were at stage IV when they visited the hospital. Studies have shown that the level of therapy-related symptoms in patients at stage IV was significantly higher than those at stage III and stage II.[34] In addition, the majority of doctors use anti-emetic drugs, stomach protection drugs, and other pre-chemotherapy adjuvant drugs in advance, which can alleviate the adverse reactions caused by chemotherapy drugs to a certain extent. We found that therapy-related symptoms are negatively associated with SOC, which is consistent with previous research on patients with digestive tract cancer and brain metastases.[25,35] Therefore, it is suggested that medical staff should pay attention to patients' adverse reactions to prevent them in advance and formulate personalized plans to manage symptoms to enhance the psychological consistency of patients.

This study found that the social support score in lung cancer patients undergoing chemotherapy was 69.49±8.15, which was moderately high. Both previous studies and our results strongly suggest that social support is significantly positively associated with SOC.[19,36] Social support is an essential cornerstone in restoring a person's SOC,[37] which helps individuals cope with life's challenges by offering resources and fulfilling psychological needs, thereby fostering patients' SOC. In addition, our results showed that social support partially mediates the relationship between therapy-related symptoms and SOC in lung cancer patients undergoing chemotherapy, explaining 10.5% of the total effect. According to the stress-buffering hypothesis of social support.[38] Social support is a protective factor that can help buffer against external stress and reduce its negative effects on health and mental well-being when facing challenges.[39] Therefore, when lung cancer patients undergoing chemotherapy experience symptoms, it is vital to provide them with sufficient social support and encourage social interaction. Studies[17,40] have shown that support from family, peers, and healthcare providers is the primary source of assistance for lung cancer chemotherapy patients in overcoming practical challenges. Hence, it is suggested that family members participate in treatment decisions and care planning and encourage individuals with similar experiences to share and support one another.

In this study, the level of hope in lung cancer patients undergoing chemotherapy was 38.94±4.25, which was moderately high. Hope is positively correlated with the SOC, indicating that the higher the level of hope, the higher the SOC, which is consistent with another relevant study.[41] Our study also found that hope partially mediates the relationship between therapy-related symptoms and SOC in lung cancer patients undergoing chemotherapy, accounting for 11% of the total effect. Hope, as a positive motivational state, can assist individuals in confronting disease and overcoming challenges and encouraging them to embrace positive coping strategies,[42] thereby enhancing their SOC. Therefore, strengthening the hope of lung cancer patients undergoing chemotherapy is essential in future clinical work. Medical staff can encourage patients to see films full of hope and

record a wish diary,[43] which can help patients develop a more positive attitude. Importantly, medical staff should actively encourage patients to communicate with each other[44] to help them establish confidence in treatment and improve their hope level.

The results of this study indicate that the chain mediating effect of social support and the level of hope on the relationship between therapy-related symptoms and SOC in lung cancer patients undergoing chemotherapy constitutes 6% of the total effect. This indicates that the combination of social support and hope can also alleviate the impact of therapy-related symptoms on SOC. This may be because social support and hope are closely related. The more social support a patient receives, the greater their level of hope, which agrees with Feng's research results.[45] High levels of social support can provide emotional comfort and practical help, increase psychological belongingness, make patients feel the influence of a more positive atmosphere, maintain a higher level of hope for the disease and life, help alleviate therapy-related adverse reactions, and enhance the level of SOC.

Limitations

This study had several limitations that need to be addressed. First, this study utilized a cross-sectional design, which did not establish a causal relationship between the four variables despite the results indicating a potential association. Longitudinal studies could be conducted to examine potential causal relationships further. Second, this study utilized a convenient sampling method, which means the samples may not be representative. Therefore, a random sampling method could be considered for future studies. Additionally, other variables, such as trait emotional intelligence, disease coping style, and positive psychological variables, may indirectly influence the mediating effect of the model. However, these variables were not included in this study. Researchers are encouraged to incorporate these variables in future research.

Conclusions

This study confirmed the relationship between therapy-related symptoms, social support, hope, and SOC. They clarified the various chain-mediated effects of social support and hope on the relationship between SOC and therapy-related symptoms, providing a reference for intervention programs aimed at improving SOC in lung cancer patients undergoing chemotherapy. Therefore, reducing the burden of their therapy-related symptoms, providing them with social support, and fostering their hope can enhance patients' sense of coherence and improve their quality of life.

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Disclosure

The authors have declared that they have no competing interests.

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