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REVIEW

Auricular Acupoint Therapy in Symptom Management of Cancer patients: A Scoping Review

Fanrui Li[1], Hejia Wan[1], Xiaohui Liu[1,2], Yuanting Deng[1], Wuyang Tian[1], Zilin Zhao[1]

[1]School of Nursing (Nursing School of Smart Healthcare Industry), Henan University of Chinese Medicine, Zhengzhou, Henan, People's Republic of China; [2]Nursing Department, Henan Provincial Hospital of Traditional Chinese Medicine (The Second Affiliated Hospital of Henan University of Traditional Chinese Medicine), Zhengzhou, Henan, People's Republic of China

Correspondence: Xiaohui Liu, Email 1173652033@qq.com

Background: The incidence of cancer is rising annually. With advances in diagnosis and treatment, cancer patients' long-term survival rates have improved, leading them to gradually enter a chronic disease state. However, they frequently experience physiological and psychological symptoms during treatment, which severely impact their survival and quality of life. Auricular acupoint therapy, a green non-pharmacological intervention characterized by ease of operation and low cost, can alleviate cancer-related symptoms. Despite its widespread use, systematic summarization and comprehensive evaluation of this therapy remain insufficient.

Objective: To systematically analyze the application of auricular therapy in cancer patients, identify its characteristics and intervention effects on symptoms, and provide a reference for symptom management in these patients.

Methods: Relevant studies were systematically retrieved from PubMed, Web of Science, Cochrane Library, Embase, CINAHL, CNKI, CBM, WanFang Database, and VIP Database from their inception to April 20, 2025. Data from the included literature were extracted and analyzed.

Results: A total of 42 studies were included. Auricular therapy is applicable across multiple stages of cancer care and exerts positive effects on cancer-related pain, fatigue, sleep disorders, anxiety, and chemotherapy-induced symptoms. Notably, the pain-fatigue-sleep disorder cluster is the most common and interrelated symptom group, with auricular acupressure as the most frequently used intervention.

Conclusion: Owing to its simplicity and cost-effectiveness, auricular therapy offers unique advantages for managing symptoms in cancer patients. The current focus in this field has shifted from managing single symptoms or individual dimensions within symptom clusters to a comprehensive management of symptom clusters. Future research should pay attention to the dynamic progression of symptoms, focus on the core symptom clusters in cancer patients, and optimize intervention strategies to enhance the efficiency of symptom management.

Keywords: auricular point therapy, cancer, symptom management, scoping review

Introduction

The Global Cancer Report released by the International Agency for Research on Cancer (IARC) points out that cancer has become the second leading cause of death in the world. In 2022, there will be approximately 19.965 million new cancer cases and 9.737 million deaths globally, and the number of new cases is expected to increase to 35 million by 2050.[1] As the level of care continues to improve, the number of long-term cancer survivors increases, and more and more cancer patients are entering a chronic disease state.[2] In the process of treatment, cancer patients often face physiological, psychological and other aspects of symptom distress, which seriously affects the survival rate and quality of life of patients.[3] Symptom management is defined as the assessment, intervention and coordination of care to prevent, alleviate or treat symptoms that occur during the course of a disease and its treatment, including associated psychological, social and spiritual problems, in order to improve a patient's quality of life and overall health.[4] Symptom management tools for cancer patients include two main categories, pharmacologic and nonpharmacologic, but pharmacologic therapies may

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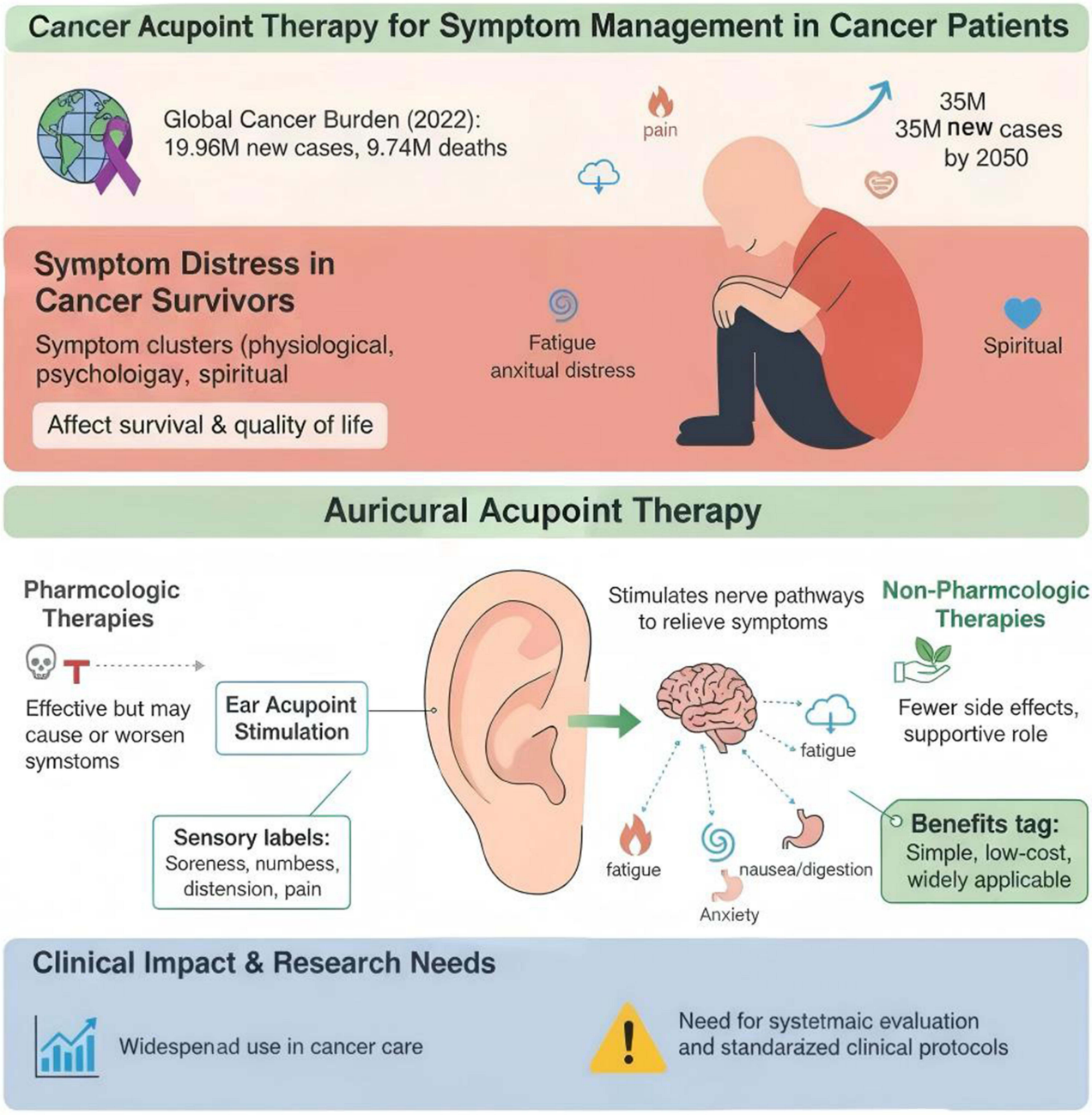
Graphical Abstract



have toxic side effects, create new symptomatic problems or exacerbate other symptoms within the cluster; therefore, it is important to seek a nonpharmacologic therapy that is efficacious, easy to administer, and has few side effects. Auricular acupoint therapy is a purely green external treatment method of traditional Chinese medicine. It involves attaching pills or magnetic beads to specific acupoints on the ear using adhesive tape, and stimulating the auricular vagus nerve through pressing. The signals generated by this stimulation can be projected to the nucleus tractus solitarius, which then directly or indirectly projects to multiple brain regions, including the hippocampus, amygdala, thalamus, striatum, and prefrontal cortex. This process regulates the autonomic nervous system and alleviates patients' symptoms. Characterized by

simplicity of operation, low cost, and wide applicability, it is one of the common complementary and alternative therapies used clinically to relieve cancer-related symptoms.[5] Currently, auricular acupoint therapy is widely used in symptom management of cancer patients, but systematic summarization and comprehensive assessment are still relatively insufficient. Therefore, this study adopted the method of scope review[6,7] to sort out and analyze the current status and existing problems of the application of auricular acupoint therapy in cancer symptom management, with a view to providing reference for clinical practice.

Materials and Methods

Defining the Research Question

According to the "PCC" principles published by the Joanna BriggsInstitute (JBI)[8] in Australia. The object of this research review is cancer patients; the concept is the application of auricular acupoint therapy in symptom management of cancer patients; and the context is symptom management of cancer patients. Therefore, the main research questions of this study are what are the basic components and intervention forms of auricular acupoint therapy applied in symptom management of cancer patients? What is the effectiveness of the application of auricular acupoint therapy in symptom management of cancer patients?

Search Strategy

The system searched PubMed, Web of Science, Cochrane Library, Embase, CINAHL, Sinomed, CNKI, Wanfang Database, and VIP Database, with a timeframe of database construction to April 2025. The Chinese search subject terms refer to the 13 symptoms within the MD Anderson Symptom Inventory (MDASI),[9] and the free words are "cancer/tumor/neoplasm/malignant tumor" "auricular plaster therapy/auricular acupoint pressing with beans/auricular acupoint seed embedding/auricular acupoint pressing/auricular acupoint therapy/Vaccaria seed/magnetic beads"; the English search terms are "neoplasms/neoplasm/tumors/tumor/cancer/cancers/carcinoma/carcinomas" "auricular acupressure/auricular acupoint pressing/auricular point sticking/auricular point pressing beans/auricular point embedding beans/auricular point therapy/auricular point embedding seeds/auricular point pressing seeds/auricular point treatment/Wang Buliuxing seeds/transcutaneous auricular Vagus Nerve Stimulation/taVNS.

Searches were conducted using a combination of subject and free word and manual searches while snowballing through the included literature. The search timeframe was from database construction to April 20, 2025.

Literature Inclusion and Exclusion Criteria

Inclusion Criteria: (1) The study subjects were cancer patients aged ≥18 years; (2) The intervention method was auricular acupoint therapy, and the form of intervention was open-ended; (3) The type of literature was original research, including randomizedcontrolled trial, quasi-experimental study, mixed-methods study, qualitative study; (4) The language was Chinese or English.

Exclusion Criteria: (1) duplicate publications and (2) inaccessible full text.

Literature Screening and Data Extraction

The retrieved literature was imported into NoteExpress software for de-duplication, and 2 researchers independently screened the studies that met the criteria based on the inclusion and exclusion criteria, and then re-screened based on the full-text content, and in case of disputes, they could be resolved after discussion or by asking a third researcher to resolve the issue. Establish the data extraction form for the study on the application strategy and management effect of auricular acupoint therapy in symptom management of cancer patients, 2 persons independently extracted the basic information and data from the included literature, and agreed with the 3rd researcher in case of disagreement or doubt during the extraction process. The extraction included first author, country of publication, time of publication, sample size, stage of implementation, implementer, target group, mode of implementation, and effect of implementation.

Results

Results of Literature Search and Screening

The preliminary search yielded 3160 documents, with 1940 documents remaining after de-weighting, and 42 documents were finally included after reading the titles, abstracts, and full texts,[10–51] of which 26 were in Chinese,[10–13,15–20,22–25,32–34,38,39,41,44–47,50,51] and 16 were in English.[14,21,26–31,35–37,40,42,43,48,49] The flowchart of literature screening is shown in Figure 1. The basic characteristics of the included literature are shown in Table 1.

Basic Characteristics of Included Literature

Forty-two papers published between 1984 and 2025 were included. Among them, 33 were from China,[10–13,15–20,22–26,29,31–36,38–41,43–47,50,51] 3 from the United States,[14,27,37] 3 from Brazil,[28,42,49] 2 from Korea,[21,48] and 1 from France.[30] The included literature included 32 randomized controlled trials,[13–17,19,21–24,26–29,31–36,38–44,46,48–51] 4 quasi-experimental studies,[10,20,37,45] 5 cross-sectional studies,[11,12,18,25,47] and 1 case-control study.[30] The basic characteristics of the included literature are shown in Table 1.

Research Subjects of Included Literature

All study subjects were cancer patients, including 11 studies on gastrointestinal cancer patients,[11–13,18–20,33,36,38,41,47] 7 studies on breast cancer patients,[14,15,21,29,31,35,48,49] 6 studies on lung cancer patients,[22,26,32,44,46,50] 2 studies on head and neck cancer patients,[10,28] 1 study on esophageal cancer patients,[12] 1 study on pancreatic cancer patients,[25] 1 study on liver cancer patients,[23] 1 study on hematological malignancy patients,[34] 1 study on cervical cancer patients,[45] 1 study on prostate cancer patients,[42] and 10 studies without specified cancer types.[16,17,24,27,30,37,39,40,43,51] The basic characteristics of the included studies are summarized in Table 1.

Application Features of Auricular Therapy in Symptom Management of Cancer Patients

Implementation Personnel

Auricular therapy can be directly administered by healthcare professionals or researchers[10,15,17,20,27,30,33,36,39,42,43,45,46,49] or, after healthcare professionals accurately locate the acupoints, and then guiding patients to perform the stimulation.[13,14,16,19,21–24,26,28,29,31,32,34,35,37,38,40,41,44,48,50,51] Among the 42 included studies, 16 studies[24,27–29,31,32,34,35,37,40,42,44,48–51] noted that operators must possess certain qualifications or be trained professionals. Training typically includes theoretical and practical learning, such as identifying positive points, intervention techniques, safety training, and how to provide health guidance to patients. The basic characteristics of the included studies are summarized in Table 1.

Intervention Phase

Auricular therapy plays a multifaceted role in symptom management for cancer patients, including prevention, diagnosis, and adjunctive treatment. (1) Diagnostic phase: Five studies[11,12,18,25,47] indicate that ear acupuncture points in cancer patients exhibit changes in color, shape, and low resistance responses, among other aspects, which have certain auxiliary diagnostic significance. (2) Perioperative period: Ear acupuncture therapy is safe and effective, with a wide range of applications during the perioperative period of cancer treatment. Preoperative application of ear acupuncture point pressure can achieve preemptive analgesia, assist with anesthesia, and alleviate anxiety symptoms in patients;[10,20,23,32] during surgery, it enhances analgesic effects and stabilizes vital signs;[10] postoperatively, it promotes gastrointestinal function recovery, enhances patient immunity, shortens anesthesia recovery time, and reduces the incidence of adverse reactions.[33,36,39,42,45] (3) Comprehensive treatment period or treatment interval period: 28 studies[13–17,19,21,22,24,26–28,30,31,34,35,37,38,40,41,43,44,46,48–51] indicate that auricular therapy can effectively prevent the occurrence of adverse reactions during chemotherapy, alleviate symptoms caused by adjuvant chemotherapy and radiotherapy, and improve patients' quality of life. The basic characteristics of the included studies are summarized in Table 1.

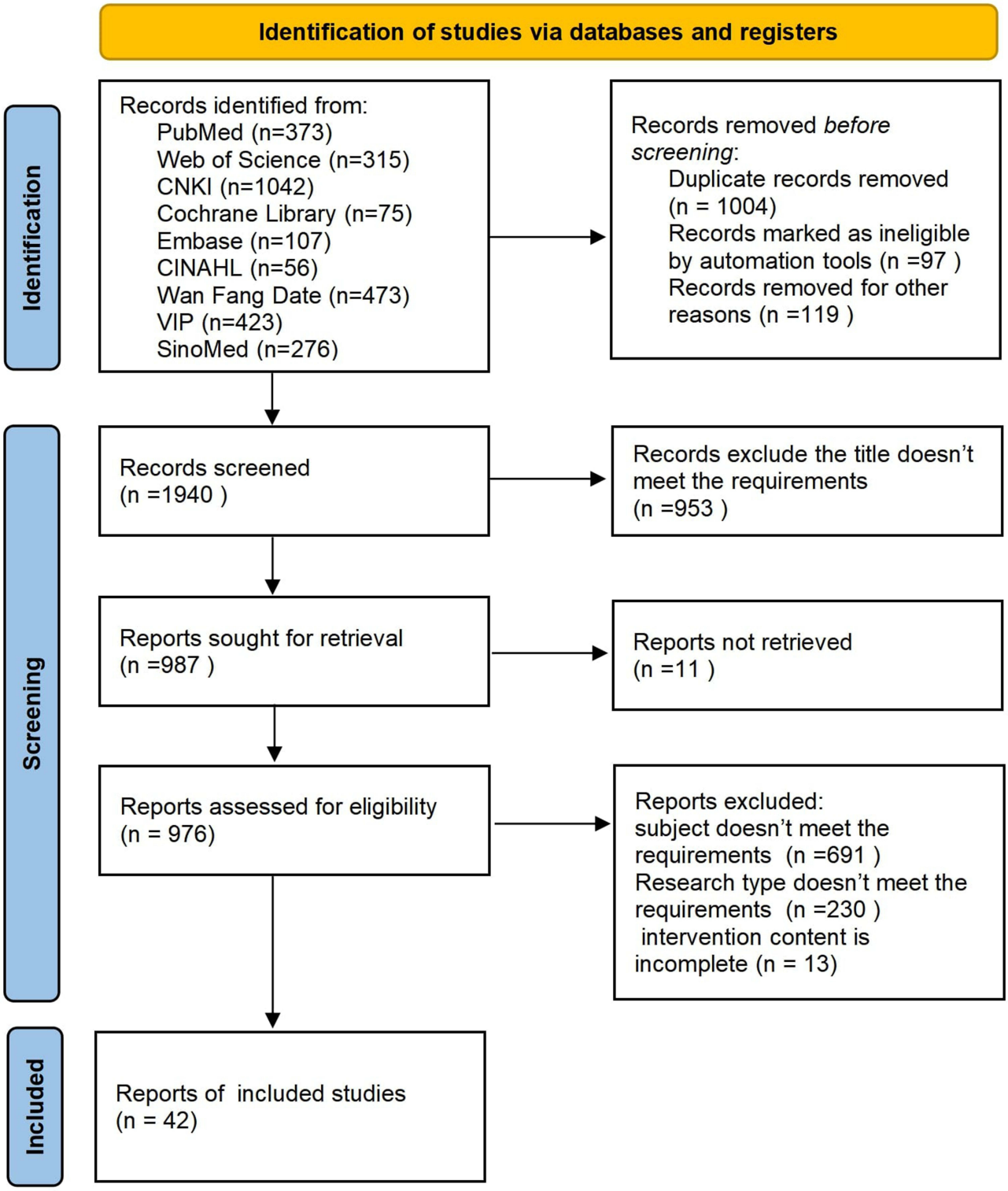


Figure 1 Literature retrieval and screening process.

Intervention Methods

(1) Ear acupuncture point application:[13,14,16,19,21–23,26,28,29,31,32,35,37,38,40,44,48,50,51] Applying medicinal seeds, magnetic beads, etc., to ear acupuncture points, stimulating them through pressure. This method allows for treatment in any body position and offers high controllability, making it the most commonly used ear acupuncture therapy. (2) Ear

Table 1 The Basic Characteristics of the Included Literature (n=42)

Author	Country	Date	Research Type	SampleT/C	Cancer Types	Symptoms Types	Intervention Phase	Operator Qualifications	Measures (Group 1/ Group 2/ Group 3)	Intervention Effect	Safety
Songsun Liu[10]	China	1984	Quasi-Experimental Study	120	Nasal cancer	Pain	Preoperative anesthesia phase	Not mentioned	Auricular anesthesia	Most patients experience no pain or only mild pain, with only 2.5% of patients experiencing severe pain during surgery, necessitating a change in anesthetic medication	Minimal postoperative reactions and few complications
Weimei Zhao[11]	China	2010	Cross-Sectional Study	30/31/32	Gastric cancer	Specific diagnosis	Preoperative and pathological stages	Not mentioned	No intervention, observation only	There are significant differences in ear acupuncture points between gastric cancer patients, precancerous lesions, and healthy individuals	/
Weijian Zhu[12]	China	2012	Cross-Sectional Study	41/50	Esophageal cancer	Specific diagnosis	Stage of disease	Not mentioned	No intervention, only observation	The observation group showed multiple pathological changes in ear acupuncture points in terms of color, shape, and low resistance response, with statistically significant differences compared to the control group ($P < 0.01$)	/
Yanmin Yu[13]	China	2014	Randomized Controlled Trial	60/60	Gastric cancer	Stomatitis	Chemotherapy period	Not mentioned	Ear acupressure /regular care	The incidence of stomatitis and the incidence of stomatitis grade II or above were both lower in the intervention group than in the control group	Not mentioned
Chao Hsing Yeh[14]	United States	2016	Randomized Controlled Trial	16/15	Breast cancer	Pain, fatigue, sleep disorders	Treatment period	Not mentioned	Ear acupressure / acupressure not on acupressure points	There is a high correlation between pain, fatigue, and sleep disorders. Auricular pressure acupuncture (APA) is a feasible and well-tolerated intervention that can effectively manage the symptoms of pain, fatigue, and sleep disorders in breast cancer patients	A few patients experienced mild ear discomfort (pain, itching)
Li Yang[15]	China	2016	Randomized Controlled Trial	32/32	Breast cancer	Nausea, vomiting	Chemotherapy period	Not mentioned	Fluoropropylene ear acupuncture injection/ fluoropropylene intramuscular injection	The incidence of nausea in the observation group was 46.9%, which was lower than that in the control group (81.3%) ($P<0.01$). The incidence of vomiting in the observation group was 28.1%, which was lower than that in the control group (56.3%) ($P<0.01$)	No adverse reactions such as anxiety, inability to sit still, or extrapyramidal symptoms were observed
Lihua Yang[16]	China	2016	Randomized Controlled Trial	29/28/28	Unlimited	Opioid-induced constipation	Treatment period	Not mentioned	Apply ear acupuncture patches at the time of initial medication administration / ear patches 3 days after medication/regular care	The incidence of constipation was lowest when ear acupuncture was administered during the first use of strong opioid drugs, and the degree of symptom improvement was significantly better than that in the trial II group and the control group	Not mentioned

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Weijian Zhu[17]	China	2016	Randomized Controlled Trial	21/19	Unlimited	Nausea, vomiting	Chemotherapy period	Not mentioned	Electroacupuncture vagus nerve stimulation therapy + palonosetron hydrochloride/ palonosetron hydrochloride	The treatment group had a significantly higher efficacy rate for nausea and vomiting than the control group	Compared with the control group, the incidence of adverse reactions was lower in the treatment group
Tingting Jia[18]	China	2017	Cross-Sectional Study	39/35/36	Gastric cancer	Specific diagnosis	Stage of disease	Not mentioned	No intervention, only observation	The gastric cancer group showed significant differences from the healthy group and the chronic atrophic gastritis group in terms of ear acupuncture point color, morphology, and electrical measurements	/
Chen Kong[19]	China	2018	Randomized Controlled Trial	55/55	Gastric cancer	Nausea, vomiting, diarrhea	Chemotherapy period	Not mentioned	Ear acupressure/ acupressure not on acupressure points	The severity and duration of nausea, vomiting, and diarrhea were lower in the experimental group than in the control group	A few patients experienced itching and mild pain in the auricle, but no cases of allergy to the tape were reported
Jun Yang[20]	China	2019	Quasi-Experimental Study	57/62	Colorectal cancer	Pain, agitation, inflammatoryresponse	Perioperative period	Not mentioned	Preoperative ear acupuncture + intravenous anesthesia/ intravenous anesthesia	The recovery time for elderly patients undergoing laparoscopic radical resection for colorectal cancer was shortened, and the internal environment of patients during the recovery period remained stable	Not mentioned
Hyeon Gyeong Yoon[21]	South Korea	2019	Randomized Controlled Trial	23/23	Breast cancer	Sleep disorder	Chemotherapy period	Not mentioned	Ear acupressure/ acupressure not on acupressure points	The total PSQI score in Treatment Group 1 was significantly lower than that in Treatment Group 2, and IL-6 levels were significantly reduced. However, Fitbit data (objective indicators) did not show significant differences between the two groups in terms of sleep duration and sleep efficiency	Not mentioned
Yan Zhang[22]	China	2019	Randomized Controlled Trial	34/32/32	Lung cancer	Cancer-related fatigue	Chemotherapy period	Not mentioned	Seed ear acupuncture/ magnetic bead ear acupuncture/regular care	The cancer-related fatigue levels in both the Wangbuliu seed group and the magnetic bead group were lower than those in the control group. The Wangbuliu seed group showed better efficacy than the magnetic bead group, and both groups had higher quality of life than the control group	No serious adverse events reported

(*Continued*)

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Table 1 (Continued).

Author	Country	Date	Research Type	SampleT/C	Cancer Types	Symptoms Types	Intervention Phase	Operator Qualifications	Measures (Group 1/ Group 2/ Group 3)	Intervention Effect	Safety
Qiaohong Wu[23]	China	2020	Randomized Controlled Trial	50/50/50	Liver cancer	Pain	Perioperative period	Not mentioned	Morphine injection/ auricular acupuncture/ morphine-injection +auricular acupuncture	The pain relief effect during and after surgery was significantly better than that of the morphine-only group and the ear acupuncture-only group	No serious adverse events reported
Dongyan Lu[24]	China	2020	Randomized Controlled Trial	30/30	Unlimited	Intractable hiccups	After chemotherapy	Trained nurses	Chinese herbal decoction + ear acupuncture/Chinese herbal decoction	The treatment group had significantly lower hiccup symptom scores than the control group, with higher overall response rates and cure rates than the control group, and shorter time to onset of action	No serious adverse events reported
Yinyu Liu[25]	China	2020	Cross-Sectional Study	61/60	Pancreatic cancer	Specific diagnosis	Stage of disease	Not mentioned	No intervention, only observation	Pancreatic cancer patients show significant differences from non-pancreatic cancer patients in terms of ear acupuncture point color, shape, and electrical measurements	/
Lu Lin[26]	China	2021	Randomized Controlled Trial	34/32/34	Lung cancer	Cancer-related fatigue, sleep disorders, anxiety	Treatment period, at home	Not mentioned	Seed ear acupuncture/ magnetic bead ear acupuncture/regular care	Ear acupuncture can significantly alleviate cancer-related fatigue in lung cancer chemotherapy patients, especially physical fatigue and emotional fatigue	Not mentioned
Jun J. Mao[27]	United States	2021	Randomized Controlled Trial	145/143/72	Unlimited	Pain	During and after treatment	Acupuncturists with five or more years of relevant experience	Electroacupuncture/ battlefield ear acupuncture/regular care	Ear acupuncture was superior to conventional care in reducing cancer pain, but the discontinuation rate was higher than that of the electroacupuncture group	A few patients experienced pain, and 10.5% discontinued treatment due to adverse events
Agna Soares da Silva Menezes[28]	Brazil	2021	Randomized Controlled Trial	52/55	Head and neck cancer	Dry mouth and anxiety	During radiotherapy	Acupuncturists with ten or more years of relevant experience	Acupuncture + Wangbuliu seeds ear acupressure/regular care	HNSCC patients experienced decreased anxiety levels, improved dry mouth symptoms, increased saliva volume, and no change in saliva pH after radiotherapy	No serious adverse events reported
Jialing Zhang[29]	China	2021	Randomized Controlled Trial	15/15	Breast cancer	Insomnia	During or after chemotherapy	Acupuncturists with five or more years of relevant experience	Electroacupuncture + ear acupressure/regular care	Symptom relief of chemotherapy-related insomnia in breast cancer patients	Three participants experienced adverse reactions, including skin allergic reactions, pain, and minor bruising
Erika Viel[30]	France	2021	Case study	73	Unlimited	Peripheral neuropathy	After chemotherapy	Not mentioned	Auricular acupuncture	65% of patients experienced symptom improvement, with 31% showing significant improvement that positively impacted their daily lives. 96% of patients saw results after 1–2 treatments	No serious adverse events occurred, and some patients experienced mild ear pain.

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Jing-Yu Tan[31]	China	2022	Randomized Controlled Trial	38/38/38	Breast cancer	Nausea, vomiting	During and after chemotherapy	Trained professionals	Ear acupressure/ acupressure not on acupressure points/ regular care	The combination of ear acupuncture and standard antiemetic therapy is superior to standard antiemetic therapy alone in managing nausea and vomiting caused by chemotherapy in breast cancer patients	11 participants reported mild or moderate adverse reactions (itching, pain)
Xiao Jiang[32]	China	2022	Randomized Controlled Trial	59/59	Lung cancer	Post-surgical symptoms of cancer	Perioperative period	Researcher	Regular care + ear acupressure/regular care	Symptom relief and reduction in symptom severity in patients undergoing thoracoscopic surgery for lung cancer	Not mentioned
Dan Zhang[33]	China	2022	Randomized Controlled Trial	30/30/30	Gastrointestinal tumor	Postoperative cognitive impairment	Perioperative period	Not mentioned	Vagus nerve stimulation/ artificial vagus nerve stimulation/regular care	Perioperative electrical stimulation of the vagus nerve region of the ear can improve postoperative cognitive function in elderly patients with gastrointestinal tumors and diabetes	Not mentioned
Liting Wang[34]	China	2022	Randomized Controlled Trial	35/35	Blood cancer	Chemotherapy-related symptoms	Chemotherapy period	Trained nurses guide patients	Regular+ear acupressure/regular care	Chemotherapy side effects are alleviated, and patients' quality of life is improved	no serious adverse events occurred
Yuyan Wang[35]	China	2022	Randomized Controlled Trial	34/34	Breast cancer	Sleep disorder	Chemotherapy period	Trained professionals	Ear acupressure/regular care	The total PSQI score in treatment group 1 was significantly lower than that in treatment group 2, and the sleep latency was significantly shorter, while the total sleep time and sleep efficiency were significantly increased.	Two participants developed minor ulcers. One participant reported pain and mild nausea during the first sympathetic point press
Ouyang Ru[36]	China	2023	Randomized Controlled Trial	67/67	Colorectal cancer	Postoperative ileus	Before surgery	Not mentioned	Transcutaneous ear vagus nerve stimulation/ regular care	The incidence of post-operative ovarian insufficiency (POI) is reduced, and gastrointestinal function is improved following laparoscopic radical resection for colorectal cancer.	Not mentioned
Barb Van de Castle[37]	United States	2023	Quasi-Experimental Study	33(Self-comparison)	Unlimited	Pain, fatigue, sleep disorders	During and after treatment	Trained oncology nurses	Ear acupressure	Auricular acupuncture can alleviate pain intensity, fatigue, and sleep disorders in patients with cancer pain, while reducing the use of analgesic drugs, especially opioids	8%–12% of patients experience ear tenderness, but it is within tolerable limits
ChannanFei[38]	China	2023	Randomized Controlled Trial	40/40/40	Gastric cancer	Pain, fatigue, sleep disorders	Chemotherapy period	Not mentioned	Ear acupressure/ acupressure not on acupressure points/ regular care	The incidence and severity of symptoms in gastric cancer patients undergoing chemotherapy have both decreased	Six cases of ear pain, two cases of ear itching, no discontinuation of treatment or withdrawal from the study due to adverse reactions.

(*Continued*)

Table 1 (Continued).

Author	Country	Date	Research Type	SampleT/C	Cancer Types	Symptoms Types	Intervention Phase	Operator Qualifications	Measures (Group 1/ Group 2/ Group 3)	Intervention Effect	Safety
Guishuang He[39]	China	2023	Randomized Controlled Trial	46/46	Abdominal cancer	Postoperative gastrointestinal dysfunction	Postoperative recovery period	Not mentioned	Regular care +acupuncture + rar acupuncture/regular care	The efficacy of acupuncture combined with ear acupuncture for gastrointestinal function rehabilitation after abdominal tumor surgery is superior to conventional Western medicine treatment alone	The incidence of adverse reactions in the observation group was significantly lower than that in the control group
Meng Wang[40]	China	2023	Randomized Controlled Trial	36/37	Unlimited	Change in taste	Chemotherapy period	Trained professionals	Ear acupressure/regular care	The ear acupressure group showed significantly better results than the control group in terms of the severity of taste changes, improvement in quality of life, and relief of negative emotions	One patient reported mild pain, and two patients mentioned that the ear patches tended to fall off during bathing
Jing Wu[41]	China	2023	Randomized Controlled Trial	43/43	Gastric cancer	Anxiety	Chemotherapy period	Not mentioned	Ear acupressure + mindfulness/mindfulness	Ear acupressure + mindfulness group had lower anxiety levels, higher hope levels, more significant improvements in coping strategies, lower incidence of chemotherapy-related adverse reactions, and higher quality of life	Not mentioned
Cissa Azevedo[42]	Brazil	2024	Randomized Controlled Trial	33/33	Prostate cancer	Postoperative urinary incontinence in prostate cancer	Postoperative	Postoperative	Ear acupuncture/regular care	Compared with pelvic floor muscle training alone, auricular acupuncture combined with pelvic floor muscle training is more effective in reducing the impact of urinary incontinence on quality of life and reducing the incidence of nocturia and urinary urgency	A few patients reported mild ear tenderness, but this did not cause them to discontinue treatment
Yifan Yang[43]	China	2024	Randomized Controlled Trial	14/13	Unlimited	Peripheral neuropathy	Treatment period	Not mentioned	Vagus nerve stimulation/ pseudo-vagus nerve stimulation	taVNS can relieve chemotherapy-induced neuropathic pain in the short term, improve sleep patterns, and enhance quality of life	No serious adverse events reported
Yifan Yang[44]	China	2024	Randomized Controlled Trial	39/39	Lung cancer	Insomnia, fatigue, poor appetite, pain, nausea, vomiting	Treatment period, home quarantine period	Home quarantine period	Regular care+ ear acupressure/regular care	Sleep quality and related symptoms improved in lung cancer patients with insomnia during chemotherapy breaks	Not mentioned

Yufang Su[45]	China	2024	Quasi-Experimental Study	15/17/14	Cervical cancer	Gastrointestinal dysfunction, decreased immune function	Postoperative recovery period	Not mentioned	Herbal decoction group/ auricular acupuncture group/combined herbal decoction and auricular acupuncture group	Herbal decoctions have a significant promotional effect on the recovery of gastrointestinal function after surgery, but their efficacy on immune function is minimal. Auricular acupuncture can assist in enhancing the function of immune T cells and improve patients' immunity	Not mentioned
Na Lu[46]	China	2024	Randomized Controlled Trial	32/32/32/32	Lung cancer	Sleep disorder	Treatment period	Not mentioned	Palliative care group/ear scraping group/ mindfulness therapy group/ear scraping + mindfulness Therapy	Both ear scraping and mindfulness therapy can effectively improve patients' sleep quality and quality of life, with combined therapy producing the best results	Not mentioned
Zhuowen Du[47]	China	2024	Cross-Sectional Study	80/ 80	Colorectal polyps	Ear acupuncture points	Stage of disease	Not mentioned	No intervention, only observation	There were significant differences in the positive detection rates between the two groups of ear acupuncture points for the large intestine and triple energizer. There were also differences in the positive detection rates between the ear acupuncture points for endocrine, boat, and liver	/
Mi Sook Jung[48]	South Korea	2025	Randomized Controlled Trial	25/26	Breast cancer	Peripheral neuropathy	Treatment period	Trained nurses	Ear acupressure/ acupressure not on acupressure points	Ear acupuncture with bean seeds can significantly alleviate subjective symptoms in CIPN patients, including pain and functional limitations, but has limited efficacy in improving objective neuropathy scores	One case of nausea and mild fever was reported, with symptoms resolving within one day after removal of the ear acupuncture seeds
Larissa Marcondes[49]	Brazil	2025	Randomized Controlled Trial	41/40/42	Breast cancer	Quality of life, fatigue, anxiety	Treatment period	Senior nurses who have undergone training and have three or more years of relevant experience	Laser auricular therapy/ pseudo-laser auricular therapy/regular care	The experimental group showed significant improvements in quality of life and fatigue, while anxiety decreased but was not statistically significant	No serious adverse events reported
Dongmei Li[50]	China	2025	Randomized Controlled Trial	113/116	Lung cancer	Nausea, vomiting	Treatment period	Trained professionals	Ear acupressure/regular care	Ear acupuncture with bean seeds can be used as an adjunctive treatment for nausea and vomiting caused by prolonged chemotherapy in elderly lung cancer patients, and can alleviate chemotherapy-related side effects with a high degree of safety	The incidence rate of Grade I adverse reactions was 6.56%
Juan Han[51]	China	2025	Randomized Controlled Trial	58/58	Unlimited	Opioid-induced constipation	Treatment period	Trained researchers and nurses	Meridian Time Selection Ear Acupuncture/regular care	The total effective rate in the observation group was 94.34%, which was significantly higher than that in the control group (82.69%) ($P<0.05$)	The incidence of adverse reactions in the observation group was 5.70%, lower than the 19.20% in the control group

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acupuncture:[10,20,27,30,39,42,45] This includes battlefield ear acupuncture, pressing needles, and long needles, using a method of inserting needles through the skin to penetrate the acupoints. This method has a broad stimulation range, rapid onset of action, and requires fewer treatment sessions. (3) Ear vagus nerve stimulation:[17,33,36,43] This involves stimulation through surface electrodes on the ear, avoiding the surgical risks associated with implantable vagus nerve stimulation. However, due to individual patient differences, optimal stimulation parameters (frequency, intensity, pulse width, etc.) have not yet been standardized. (4) Ear acupoint massage:[34] This method regulates physiological functions by massaging ear acupoints. It is simple to perform, safe, and easy for patients to master, with a broad stimulation range. (5) Ear acupoint injection:[15] This involves injecting medication into the ear, combining acupoint stimulation with pharmacological effects to enhance therapeutic efficacy. Accurate selection of acupoints, control of injection depth, and proper dosage are essential to avoid complications such as local infection or hardening. (6) Ear scraping:[46] Scraping specific areas of the ear with a scraping board, which is highly comfortable During treatment, changes in skin color and the appearance of scraping marks can be observed to assess the patient's qi and blood condition and disease status. (7) Ear acupoint laser therapy:[49] Using low-intensity laser irradiation on ear acupoints without needling or injection, reducing the risk of infection or bleeding, suitable for patients sensitive to pain. (8) Combined therapy:[23,24,28,29,39,41,45,46] Combining ear acupuncture therapy with other treatment methods to enhance efficacy. Additionally, clinical practices include ear tip bloodletting, ear acupuncture thread implantation, ear moxibustion, and ear incision therapy. However, due to insufficient research evidence, these methods were not included in this study. The basic characteristics of the included literature are shown in Table 1.

Types of Symptoms

Among the 42 included studies, the symptoms covered included sleep disorders (11 studies),[14,21,26,29,32,34,35,37,38,44,46] pain (10 studies),[10,14,20,23,27,32,34,37,38,44] fatigue (9 studies),[14,22,26,32,34,37,38,44,49] anxiety (4 studies),[26,28,41,49] and chemotherapy-induced nausea, vomiting, and diarrhea (5 studies),[15,17,19,31,50] constipation (2 studies),[16,51] chemotherapy-induced neurotoxicity (4 studies),[30,40,43,48] chemotherapy-induced intractable hiccups (1 study),[24] chemotherapy-induced stomatitis (1 study),[13] and other symptoms.[20,28,33,36,39,42,45] Among these, 28 studies focused on a single symptom in cancer patients,[10,13,15–17,19–24,27,29–31,33,35,36,39–43,45,46,48,50,51] while 9 studies explored multiple symptoms or symptom clusters in cancer patients.[14,26,28,32,34,37,38,44,49] The basic characteristics of the included studies are detailed in Table 1.

Effect Evaluation

Pain

Ten studies[10,14,20,23,26,27,32,37,38,44] have demonstrated that auricular therapy shows promising prospects and significant efficacy in the management of cancer pain and pain associated with cancer treatment. Barb Van de Castle et al[37] noted that auricular pressure application can significantly reduce pain intensity in cancer pain patients and decrease the use of analgesic medications. Wu Qiaohong et al[23] applied ear acupuncture patches to 150 liver cancer patients undergoing radiofrequency ablation prior to the procedure. The results showed that patients experienced pain relief during surgery without significant adverse reactions, providing an advanced analgesic strategy for perioperative pain management in liver cancer patients. Jun J. Mao et al[27] compared electroacupuncture and battlefield ear acupuncture in 360 cancer pain patients. The results indicated that battlefield ear acupuncture was more effective in alleviating cancer pain, but had a higher discontinuation rate than electroacupuncture.

Cancer-Related Fatigue

Nine studies[14,22,26,32,34,37,38,44,49] have indicated that auricular therapy can improve fatigue symptoms in cancer patients. Lu Lin et al[26] found that auricular pressure application can significantly alleviate cancer-related fatigue in lung cancer patients undergoing chemotherapy, with Wang Buliu Xing seeds yielding better results, consistent with the findings of Zhang Yan et al.[22] Yeh et al[14] analyzed 31 breast cancer patients and found a high correlation between pain, fatigue, and sleep disorders, and that ear acupuncture can effectively manage the pain-fatigue-sleep disorder symptom cluster in breast cancer patients.

Sleep Disorders

Nine studies[14,21,26,29,35,37,38,44,46] have shown that auricular therapy can improve sleep quality in cancer patients. Wang et al[35] found that auricular pressure application reduced the total score of the Pittsburgh Sleep Quality Index (PSQI), shortened the sleep latency period, prolonged total sleep time, and improved sleep efficiency. Lu Na et al[46] used ear scraping combined with mindfulness therapy to treat cancer-related insomnia in advanced lung cancer patients, significantly improving their sleep quality and quality of life, with the combined therapy yielding the best results. However, in a study by Lu Lin et al,[26] ear acupuncture did not show a significant improvement in sleep quality. Korean scholars Yoon et al[21] also noted in their study that while the PSQI total score was lower in the ear acupuncture group compared to the sham ear acupuncture group, Fitbit data (objective measures) did not show differences between the two groups in terms of sleep duration and efficiency.

Gastrointestinal Reactions Caused by Chemotherapy

Seven studies[15,17,19,31,32,34,50] have shown that auricular therapy can significantly reduce the incidence, severity, and duration of gastrointestinal symptoms following chemotherapy. A randomized controlled trial targeting breast cancer patients[31] showed that patients who received ear acupuncture had a significantly higher rate of complete remission of acute nausea and vomiting (CINV) (especially acute nausea) compared to those who only received standard antiemetic treatment. Yang Li et al[15] administered fluoropropylene ear acupuncture to 32 breast cancer patients undergoing chemotherapy. The results showed that the incidence of nausea and vomiting during chemotherapy was significantly lower in the ear acupuncture group than in the control group.

Peripheral Neuropathy by Chemotherapy

A case series study of CIPN patients[30] showed that 65% of patients with peripheral neuropathy were satisfied with auricular acupuncture treatment, with 31% of patients experiencing significant positive effects on daily life due to symptom improvement, and 96% of patients showing efficacy after 1–2 treatments. Yang Yifan et al[43] performed auricular vagus nerve stimulation on patients with chemotherapy-induced painful peripheral neuropathy. The results showed that auricular vagus nerve stimulation could alleviate chemotherapy-induced neuropathic pain in the short term, improve sleep quality and quality of life, and no treatment-related adverse events were observed. However, it is important to note that Mi Sook Jung et al[48] reported in their study that ear acupuncture can significantly alleviate subjective symptoms (such as pain and functional limitations) in patients with peripheral neuropathy, but its effect on improving objective neuropathy scores is limited.

Others

Auricular therapy, as an adjunctive treatment, has shown promising results in alleviating symptoms such as anxiety, chemotherapy-induced nausea, and gastrointestinal dysfunction following cancer surgery. Wu Jing et al[41] found that combining ear acupuncture with mindfulness-based stress reduction effectively alleviated anxiety and improved quality of life in gastric cancer patients undergoing chemotherapy; Menezes et al[28] confirmed that acupuncture combined with ear acupuncture significantly alleviated anxiety in patients. Zhang Dan et al[33] administered ear electrical stimulation to elderly gastrointestinal patients with diabetes during the perioperative period, The results showed that electrical stimulation of the vagus nerve region of the ear acupoints can improve postoperative cognitive function in elderly gastrointestinal tumor patients with diabetes. Ouyang Ru et al[36] administered low-intensity transcutaneous vagus nerve stimulation to patients after radical surgery for colorectal cancer. The results indicated that vagus nerve stimulation can effectively reduce the incidence of postoperative intestinal obstruction, improve gastrointestinal function, and promote patient recovery.

Safety Evaluation

22 studies reported[14,17,19,22–24,27–31,34,35,37–40,42,43,48,50,51] that patients experienced high safety during treatment, Participants reported fewer adverse reactions, primarily mild ear pain, bruising, allergies, itching, dizziness, and nausea. However, these adverse reactions gradually subsided, and most were within the tolerable range for patients.

Discussion

Chinese scholars have conducted extensive research on auricular acupoint therapy for alleviating cancer-related symptoms. Auricular acupoint therapy can be applied in multiple stages of cancer patients' journey, including diagnosis, treatment, and post-treatment rehabilitation. It exerts positive effects on various symptoms such as cancer pain, cancer-related fatigue, sleep disorders, anxiety, and chemotherapy-induced symptoms. Among these symptoms, pain, fatigue, and sleep disorders are the most common and interrelated symptom clusters in cancer symptom management, and auricular acupoint application is the most frequently used intervention method.

The Mechanism of Auricular Acupoint Therapy

Auricular therapy is simple to perform and highly safe, making it an important branch of acupuncture. Having been practiced for thousands of years, it integrates traditional Chinese medical theory with modern medicine and is widely applied in symptom management for cancer patients.[52] According to traditional Chinese medical theory, "The ear is where the meridians converge." The auricle, as the convergence point of meridians, has a small surface area with concentrated reaction points. When there are pathological changes in the internal organs or meridians, the corresponding areas of the ear may exhibit symptoms such as tenderness, deformation, or discoloration. By stimulating these reaction points, one can unblock meridians, promote the circulation of qi and blood, alleviate patients' discomfort, and improve their quality of life.[53] In 1956, French scholars proposed the "inverted embryo theory," noting that the shape of the auricle resembles that of an inverted fetus. The distribution of ear acupoints on the auricle corresponds to the internal organs and structures within the fetus, aligning with traditional Chinese medicine's theory of internal organs. Modern medicine posits that the auricle and surrounding areas are rich in nerves, and stimulating the auricle can directly act on the vagus nerve of the body, regulating the function of the autonomic nervous system.[54–57] Additionally, studies have found[58] that stimulating the vagus nerve in the ear can effectively regulate the hypothalamic-pituitary-adrenal axis (HPA axis), optimize the functions of the neuroendocrine and immune systems, and promote the body's recovery (Figure 2).

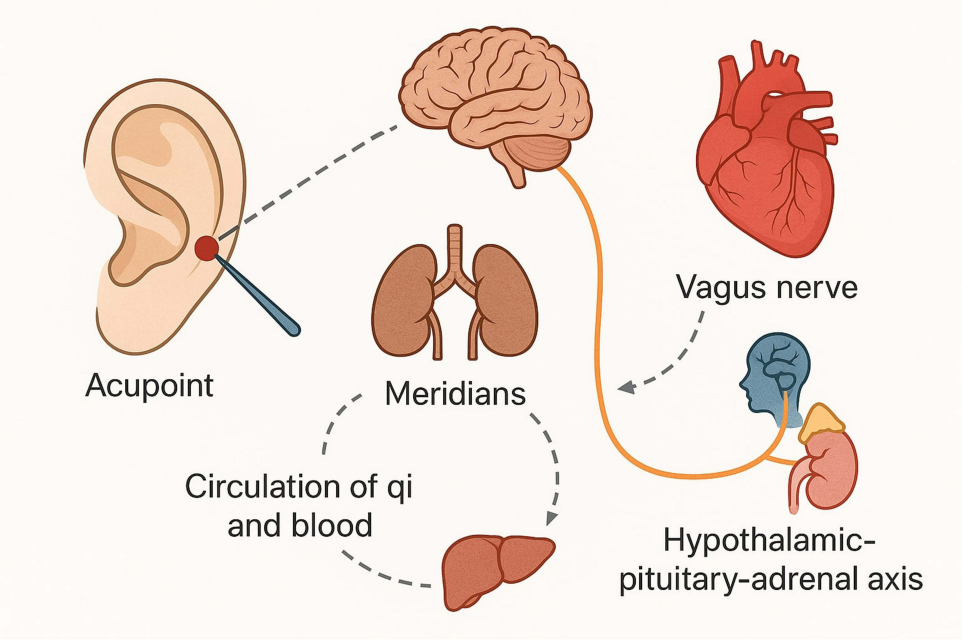

Figure 2 Auricular Acupoint Stimulation Regulates Systemic Function via Meridian and Neural Pathways.

The Application of Auricular Therapy in Symptom Management for Cancer Patients Is Gradually Shifting From Treating Individual Symptoms to Comprehensive Assessment of Symptom Clusters

Cancer patients often experience a range of physical and psychological symptoms, which typically do not occur in isolation but rather present as "symptom clusters," interacting and influencing one another synergistically.[59,60] This synergistic effect not only reduces patients' quality of life but may also shorten their survival period. Auricular therapy can simultaneously improve multiple symptoms in cancer patients, with good therapeutic efficacy and minimal risk of inducing new symptoms or exacerbating existing ones. In recent years, researchers have shifted their focus in symptom management for cancer patients from addressing single symptoms or individual dimensions within a syndrome cluster to comprehensive management of symptom clusters.[61] Jiang Xiao et al[32] conducted ear acupuncture intervention on lung cancer patients undergoing thoracoscopic surgery and found that ear acupuncture pressure could effectively alleviate multiple symptom clusters in cancer patients (respiratory symptom cluster, pain-fatigue-sleep disorder symptom cluster, psychological symptom cluster, gastrointestinal symptom cluster, and neurological symptom cluster), thereby improving patients' quality of life; Fei Chaonan et al[38] identified sentinel symptoms in gastric cancer patients, they used ear acupuncture point pressure to implement preventive symptom management for gastric cancer chemotherapy patients, significantly reducing the incidence of the pain-fatigue-sleep disturbance symptom cluster and alleviating the severity of symptom distress; Lin Meixiang et al[44] applied ear acupuncture point pressure to 78 lung cancer patients with insomnia and found that symptom clusters improved during chemotherapy intervals, consistent with the findings of Chao Hsing Yeh et al.[14] However, current research on symptom clusters in cancer patients primarily focuses on the identification and intervention of specific symptom clusters (pain-fatigue-sleep disorders), neglecting the dynamic changes in symptoms across different treatment stages[62,63] and lacking comprehensive studies on the identification of core symptom clusters and the overall progression of cancer across different stages (Figure 3).

Auricular Therapy Is Used in Various Forms in Symptom Management for Cancer Patients, but There Is Heterogeneity in the Content of Interventions

(1) Qualifications of practitioners are not yet clearly defined: Auricular therapy requires precise selection of acupoints based on the patient's syndrome pattern and symptoms. Therefore, practitioners need to have a certain level of training. Additionally, some procedures involve invasive techniques, which require professional skills and standardized protocols to ensure the safety and efficacy of treatment. Although specialized nursing training programs have been established in some regions,[64] the qualifications and certification standards for practitioners have not yet been clearly defined or standardized. (2) Lack of standardized operating procedures: In 2015, the "Handbook of Traditional Chinese Medicine Techniques for Nurses"[65] issued in China initially standardized the operational procedures, pressing frequency, and intensity of auricular acupoint application. However, with the continuous accumulation of new research findings and clinical experience, the operational standards of auricular therapy still need to be continuously updated and optimized. However, as new research findings and clinical experience continue to accumulate, the operational standards for ear acupuncture therapy still require ongoing updates and optimization. Nevertheless, due to factors such as regional and institutional differences, the absence of a unified certification and regulatory mechanism, and individual variations in clinical practice, there remains a lack of completely unified standardized operational procedures for key aspects of ear acupuncture therapy, including intervention processes, method selection, material selection, intervention timing, acupoint localization, stimulation methods, and stimulation intensity.[66]

Perspective

Auricular acupoint therapy has demonstrated significant value in the symptom management of cancer patients, leveraging its unique advantages such as simple operation, high cost-effectiveness, good safety, and few side effects. Currently, the research focus in this field has shifted from interventions targeting single symptoms to the comprehensive management of symptom clusters. Future studies should improve the research design process, conduct multi-center, large-sample randomized controlled trials to enhance the reliability and generalizability of research results. In addition, researchers

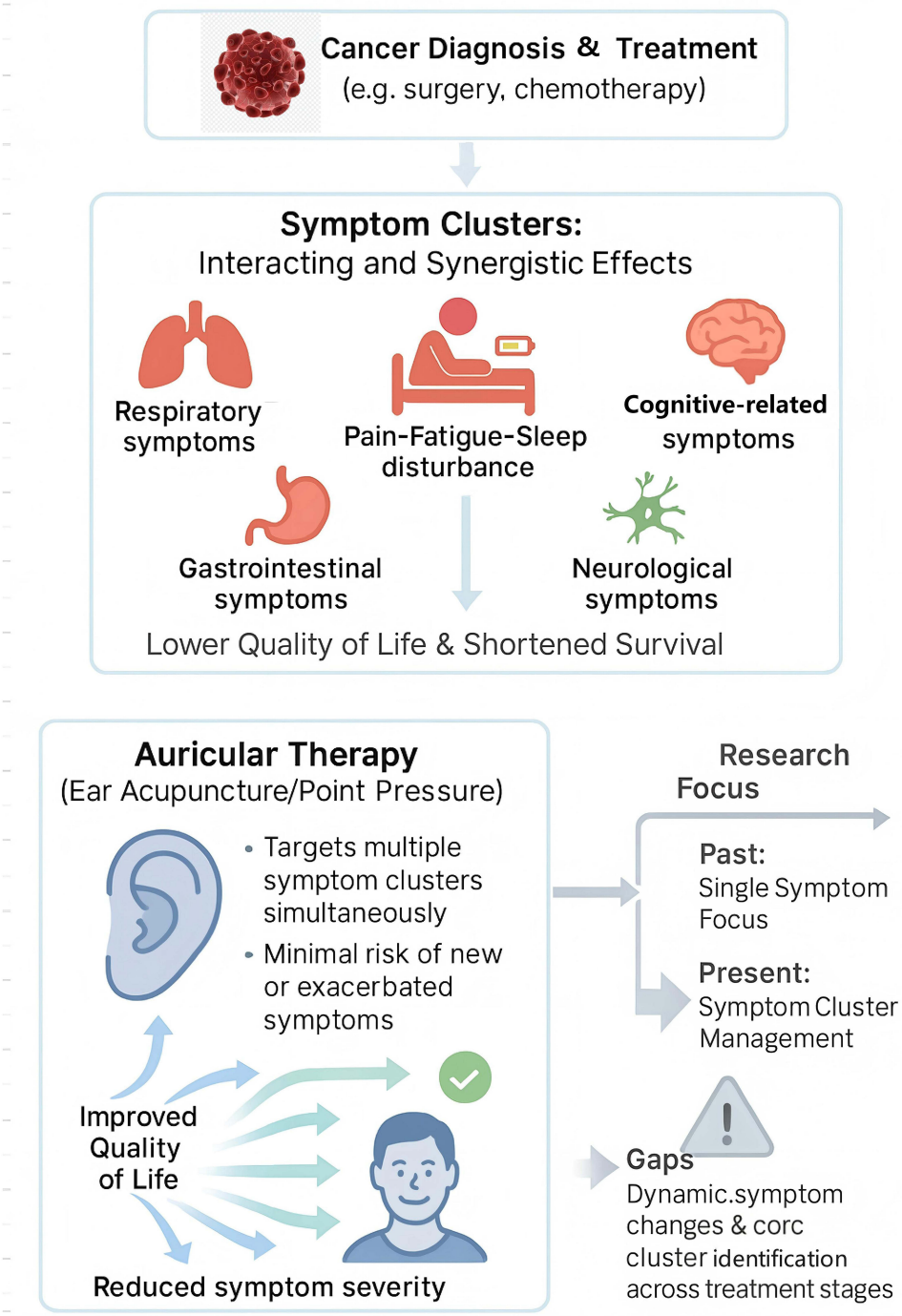

Figure 3 Mechanism of Auricular Therapy in Managing Symptom Clusters in Cancer Patients.

need to deepen the research on dynamic interventions for core symptom clusters, identify core symptom clusters at different stages through systematic evaluation or symptom network analysis, and develop personalized auricular acupoint therapy schemes to improve intervention effects, thereby continuously enhancing the clinical application value and scientificity of auricular acupoint therapy in cancer symptom management.

Data Sharing Statement

All data relevant to the study are included in the article or available upon reasonable request from the corresponding author.

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Disclosure

The authors declare no conflicts of interest.

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