



**EFFECTS OF ACUPRESSURE ON PSYCHOLOGICAL SYMPTOMS IN CHRONIC DISEASE PATIENTS: A SCOPING REVIEW**

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**ABSTRACT**

Research related to the effects of acupressure on psychological problems in patients with chronic diseases has been conducted by previous researchers. However, so far reviews on this topic are still limited. The purpose of this review is to obtain an overview of the extent of the effects of acupressure on psychological symptoms of chronic disease sufferers based on the results of research that has been conducted. The method used is a scoping review, determining the research questions to be reviewed using the PICO (Population, Intervention, Comparison, Outcome) framework. The keywords used in the article search are "Acupressure" AND "Acupoints" AND "Psychological Symptoms" AND "Chronic disease" OR "Chronic illness". Several databases used in this study such as Pubmed (n = 14), Science Direct (n = 495), Ebsco (n = 82), Proquest (n = 562), Scopus (n = 973) were then eliminated and screened into 10 articles studied. The review analysis was carried out using the Arksey and O'Malley theory approach. Based on the results of the analysis of 10 articles, it was found that acupressure has a positive effect in helping to reduce symptoms and improve the psychological condition of patients with chronic diseases, including relieving patient symptoms such as depression and anxiety in patients undergoing hemodialysis and breast cancer, reducing pain in osteoarthritis patients, overcoming insomnia which is often accompanied by anxiety disorders, emotional disorders (worry, nervousness, irritability), treating depression, anxiety, and insomnia in acute stroke patients, improving stress index, and sleep efficiency in the elderly with essential hypertension, reducing anxiety in female patients with coronary artery disease (CAD), decreasing the average stress score and improving the quality of life in patients with type 2 diabetes mellitus, increasing the quality of life and reducing emotional disorders in patients with polycystic ovary syndrome (PCOS). The conclusion of the journal review shows that acupressure has the effect of improving psychological conditions by reducing symptoms of anxiety, depression, stress, sleep disorders or insomnia and helping to improve the quality of life in patients with chronic diseases.

Keywords: acupoints; acupressure; chronic disease or chronic illness; psychological symptoms

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**INTRODUCTION**

According to WHO (World Health Organization), chronic diseases are diseases that last more than 6 months and generally develop slowly due to genetic, physiological, behavioral and environmental factors (Yanti Cahyati dkk., 2021). Chronic diseases have a tendency to cause permanent damage and disability and cannot be cured completely (Wulansari et al., 2021). WHO (World Health Organization) classifies chronic diseases into 2, namely communicable diseases and non-communicable diseases. Communicable diseases include tuberculosis, while non-communicable diseases are degenerative diseases related to lifestyle such as hypertension, stroke, heart failure, kidney failure and type 2 diabetes mellitus (Kusnadi et al., 2023). Chronic diseases are the leading cause of death and disability worldwide. The prevalence of chronic diseases in 2018 increased from 2013. The prevalence of cancer increased from 1.4% to 1.8%, the prevalence of stroke increased from 7% to 10.9%; and chronic kidney disease increased from 2% to 3.8%, diabetes mellitus increased from 6.9% to

8.5%, hypertension increased from 25.8% to 34.1% (Kementrian Kesehatan Republik Indonesia, 2021).

Chronic illness is a serious health problem that requires long-term care. This condition can cause psychological impacts such as fear, anxiety, and even depression. If not treated quickly, this can cause problems for patients, including negative assessments of the meaning of life, emotional changes such as chronic depression, and other psychological disorders, and reduce the quality of life (Gandeng et al., 2022) (Iin Patimah, 2021). Treatment for psychological disorders can involve the use of pharmacological and non-pharmacological therapies. The use of pharmacological therapies has the potential to cause problems such as perceptual disturbances and increase the risk of dependence. On the other hand, there are non-pharmacological approaches to treating psychological disorders such as meditation, yoga, relaxation music, aromatherapy, acupuncture, and acupressure therapy. These approaches are designed to support the healing process and improve overall well-being (Yin et al., 2022).

Acupressure is a non-invasive, low-cost complementary and alternative therapy in which pressure is applied to points located on energy meridians throughout the body. The use of pressure at specific points on the body (called acupuncture points) balances physiological and psychological functions (Sangani et al., 2023). Acupressure is a non-invasive technique based on the meridian theory of Traditional Chinese Medicine (TCM). Acupressure focuses on applying pressure to points located on energy meridians throughout the body. Stimulation of acupressure points uses the fingers, hands, knuckles, or a blunt instrument to apply pressure, causing sensations of pain, numbness, and bloating (Lidhar et al., 2022). Research conducted by Sharifizi on acupressure using the LI4 or Hegu point located in the middle of the line and the HT7 point on the lateral wrist located radially towards the flexor carpi ulnaris tendon is effective in reducing pain and anxiety in cancer patients (Sharifi Rizi et al., 2017). Research conducted by Dialek and Sevim stated that the application of acupuncture at the HT7 and ST36 points was found to be effective in reducing anxiety behavior related to nicotine withdrawal among a sample of rats (Aygin & Şen, 2019).

The effect of pressing acupressure points increases endorphin levels. The nervous system will stimulate the endocrine system to release endorphins according to the body's needs and is expected to produce a relaxing, calm and happy effect (Wahyudhianti & Waroh, 2023). Acupressure can also cause stimulation of serotonin and noradrenaline neurotransmitter levels which can provide a therapeutic effect. The pressure applied to acupressure points regulates the sympathetic and parasympathetic nervous systems to create a feeling of calm, improve qi and blood energy in the meridians, bringing balance back to the mind, body and soul (Zhang et al., 2021) (Dina Anggraini et al., 2023). Handling psychological disorders is an important aspect that must be considered, especially in the context of chronic diseases. The use of acupressure as an intervention method has been widely used, although studies that can be the basis for thinking about this intervention are still limited. This article aims to evaluate the extent to which acupressure affects psychological symptoms such as anxiety, depression, stress, and sleep disorders in people with chronic diseases, based on the results of existing studies.

## **METHOD**

This study uses a scoping review method aimed at mapping the concepts underlying the effects of acupressure on the anxiety levels of chronic patients. According to Arksey and O'Malley (2005: 2) There are several methodological steps in compiling a scoping review to

conduct a literature review: 1. Identifying research questions. The research question using the PICO framework in this scoping review is "How does acupressure affect the psychological symptoms of chronic diseases?". 2. Identify relevant studies, identify studies by determining the criteria for studies to be studied including the following inclusion criteria: Related articles according to the title, namely regarding acupressure on chronic disease anxiety levels, research published in the last 5 years (2019-2023), in English, full text and open access, quantitative and qualitative research by considering the variables studied are the same between the two. The keywords used in the article search were "Acupressure" AND "Acupoints" AND "Psychological Symptoms" AND "Chronic disease" OR "Chronic illness". The electronic databases used were Pubmed, Science Direct, Proquest, Ebsco, and Scopus. The search for research articles was conducted in November 2023. 3. Research Selection, The results obtained from several databases identified 2,126 articles.

The first selection carried out by looking at the relevant titles obtained 59 articles, while the irrelevant ones were removed. Furthermore, screening articles according to the desired inclusion and exclusion criteria obtained 38 articles. Then further screening was carried out by making excluded so that 10 articles were obtained. This study uses the PRISMA Flowchart framework which is useful for the selection process of literature sources that have been collected by researchers. 4. Preparation of literature charts/data to be used, mapping data by grouping materials according to main issues and themes. Data is presented in the form of a table containing several components, namely title, author, year, design and sample population, and results. 5. Compiling, summarizing literature and reporting the results, Following articles that have been summarized descriptively and comparing articles that are reviewed. Summarizing and analyzing between one article and another including intervention methods and duration of intervention, research methods, measuring instruments used, discussion and results. Presenting the results in the results and discussion. 6. Consultation Exercise (William Winardi & Rivolta Alfiko Musak, 2021).

#### PRISMA Diagram

In this review, data is filtered by the author using inclusion and exclusion criteria. Inclusion criteria are: 1. Articles published in 2019-2024 2. Articles in English 3. Related articles according to the title, namely about acupressure for psychological disorders in chronic diseases 4. Complete articles that can be accessed for free, 5. Quantitative research.

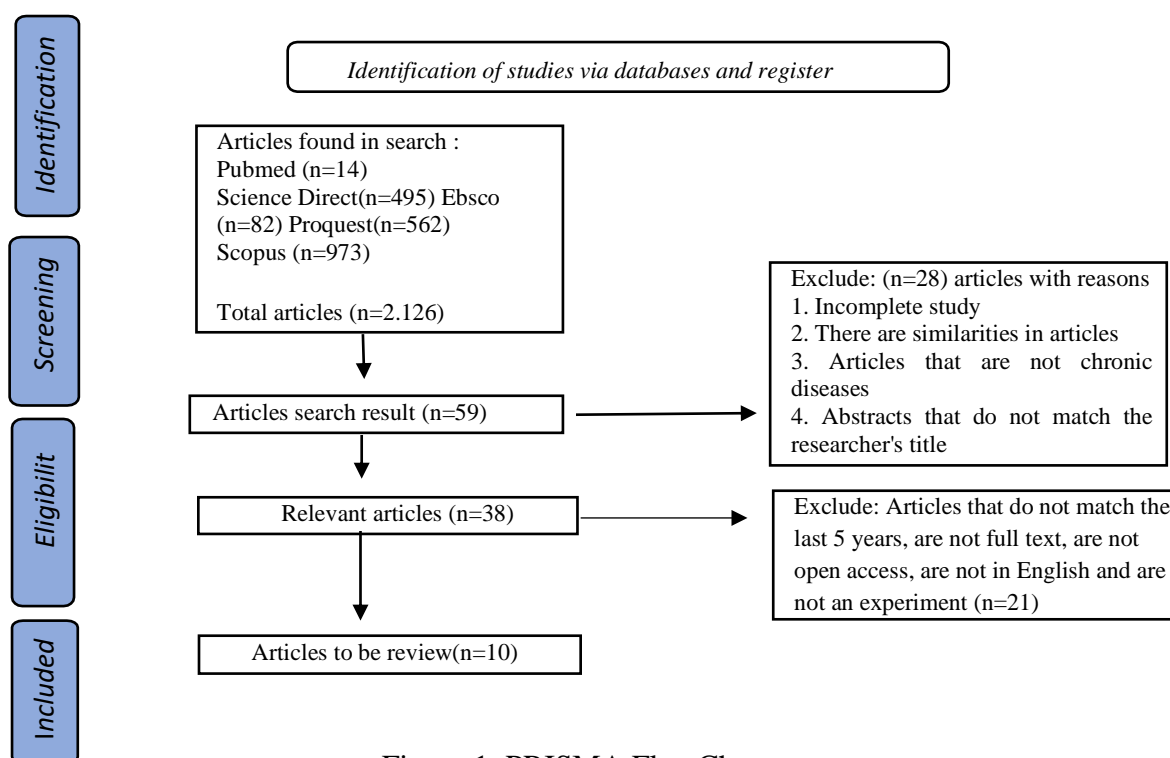


Figure 1. PRISMA FlowChart

## RESULTS

The article search process using keywords resulted in 2,126 articles (14 Pubmed articles, 495 Science Direct articles, 82 Ebsco articles, 562 Proquest articles and 973 Scopus articles). The selection process was based on inclusion criteria, obtained 59 articles, then excluded again with relevant themes as many as 39 articles so that 10 articles were obtained. The following is a summary of the analysis of articles from 10 articles that focus on the effects of acupressure on psychological symptoms such as depression, anxiety, pain, emotional disorders (worry, nervousness, irritability), improving blood pressure, improving vital signs, improving quality in chronic patients (Dehghanmehr et al., 2020), (Rani et al., 2020), (Li et al., 2023), (Yin et al., 2022b), (J. Zhang et al., 2023), (Yuan et al., 2021), (Vasokolaei et al., 2019), (Salmani Mood et al., 2021), (Nekooi et al., 2022), (Kim & Park, 2023).

Table 1.  
Analysis of Article

Author & Year	Title	Objective	Result Design	Research Result
Sadegh Dehghanmehr, Gholam Hosein Sargazi, Abdolhagh Biabani, et al. 2019	<i>Comparing the Effect of Acupressure and Foot Reflexology on Anxiety and Depression in Hemodialysis Patients: A Clinical Trial</i>	This study aims to compare the effects of acupressure and reflexology on anxiety and depression in hemodialysis patients.	This research design uses A Clinical Trial	The results showed that acupressure and reflexology can have a positive impact in alleviating patient complaints. depression and anxiety. Before the intervention, there was no significant difference between the three groups in depression (P = 0.051) and anxiety (P = 0.11). Comparison of the mean scores of depression and anxiety between the three groups after the intervention revealed significant differences between the three groups in terms of both variables (P <0.001). Statistical analysis showed that depression and anxiety scores were significantly different after

Author & Year	Title	Objective	Result Design	Research Result
				the intervention between the two experimental groups and the control group ( $P < 0.001$ ).
Meenu Rani, Lokendra Sharma, Uma Advani, Susheel Kumar. 2020	<i>Acupressure as an Adjunct to Pharmacological Treatment for Depression, Anxiety, and Stress in Patients with Knee Osteoarthritis.</i>	This study aims to determine the effectiveness of acupressure therapy with pharmacological treatment on pain, depression, anxiety, and stress in patients with knee osteoarthritis and to assess the effect of pain improvement on psychological health.	This research design uses the non-blinded comparative study.	Acupressure can be used as an additional therapy combined with conventional treatment (pharmacological treatment), which can help reduce pain. Pain reduction directly contributes to improved physiological health in patients with osteoarthritis. Patients in the intervention group scored better on the pain scale ( $p < 0.001$ ) and DASS-21 ( $p = 0.0001$ ). Pearson correlation coefficient values ranged from 0.231 to 0.412 for DASS-21 ( $p < 0.05$ )
Meng-Yuan Li, Stephen Wai Hang Kwok, Jing-Yu (Benjamin) Tan, at all 2023	<i>Somatic acupressure for the fatigue-sleep disturbance-depression symptom cluster in breast cancer survivors: A phase II randomized controlled trial</i>	This study aimed to evaluate the effect of somatic acupressure to manage fatigue-sleep disturbance-depression symptom cluster (FSDSC) among breast cancer (BC) patients and its initial effects.	This research design uses a randomized controlled trial.	The effects of Somatic Acupressure on FSDSC (sleep disturbance and fatigue) and depression in the time-based group were significant ( $p < 0.05$ ). Qualitative findings indicated that participants positively viewed SA as a useful strategy for symptom management. The results showed signs of improvement in the targeted outcomes.
Xiao-Jun Yin a , Fan Wang b , Gao- Ping Lin a , Xiao- Li Gong a , Mei- Yan Yao 2022	<i>Effects of auricular acupressure on depression in stroke patients: A single-blind randomized controlled trial</i>	This study aims to determine the effectiveness of auricular acupressure combined with music therapy in reducing depression and improving the quality of life of post-stroke patients.	This research design uses a single-blind randomized controlled trial.	The results of this study indicate that the combination of auricular acupressure and music therapy is effective in reducing post-stroke depression and improving quality of life in stroke patients. The intervention group showed significant improvements in the World Health Organization Quality of Life Brief Version (WHOQOL-BREF) compared to the sham group.
Jialing Zhang, Zongshi	<i>Acupuncture for chemoth</i>	This study was conducted to determine the	This research design uses	The primary outcome was measured using the Insomnia Severity Index (ISI). Secondary outcomes included the

Author & Year	Title	Objective	Result Design	Research Result
Qin, Tsz Him So, Tien Yee Chang, Sichang Yang, Haiyong Chen, Ka Fai Chung, Pui Yan Chan, Yong Huang, Shifen Xu, Chun Yuan Chiang, Lixing Lao and Zhang-Jin Zhang 2023	<i>erapy-associated insomnia in breast cancer patients: an assessor-participant blinded, randomized, sham-controlled trial</i>	efficacy and safety of acupuncture in improving chemotherapy-related insomnia in breast cancer patients.	a randomized controlled clinical trial.	Pittsburgh Sleep Quality Index, Actiwatch and sleep diary for sleep, depression and anxiety, fatigue and pain, and quality of life. Acupuncture in the intervention group resulted in better outcomes than the control group in improving sleep onset latency, total sleep time and sleep efficiency in women with breast cancer with chemotherapy-related insomnia. Acupuncture also had effects in reducing anxiety and depression and improving quality of life.
Ying Yuan, Qinghui Zhou, Fanfu Fang, Weihong Li1, and Yanli You 2021	<i>Efficacy of the acupressure wrist-ankle strap in mild insomnia patients with anxiety disorders: study protocol for a randomized controlled trial</i>	This study aims to evaluate the effect of acupressure wrist straps on mild insomnia patients with anxiety disorders.	This research design uses a randomized controlled trial.	The results of this study are that wrist acupressure strap acupressure is effective in improving sleep quality and reducing patient anxiety disorders, reducing patient suffering, and improving quality of life, it can also shorten the latency time to fall asleep, increase total sleep time, reduce the number of arousals and duration, increase sleep efficiency, can reduce ACTH, CORT, 5-HT, and NA in the peripheral blood of insomnia patients, thereby improving sleep quality.
Zohreh Rahmani Vasokolaee, Nahid Rejeh, Majideh Heravi-Karimooi, Seyed Davood Tadrissi, Kiarash Saatchi, Zahra Poshtchaman, Christina Sieloff and Mojtaba Vaismoradi 2019	<i>Comparison of the Effects of Hand Reflexology versus Acupressure on Anxiety and Vital Signs in Female Patients with Coronary Artery Diseases</i>	This study aimed to compare hand reflexology massage versus acupressure on anxiety and vital signs in female patients with coronary artery disease.	This study design used a double-blinded randomized placebo-controlled trial with a pre- and post-intervention.	The results of this study where hand reflexology and acupressure have the same effect in reducing anxiety in women with CHD. The results of statistical analysis of hand reflexology and acupressure in the intervention group after the action of the p value of anxiety and vital signs were the same (p <0.05). The application of hand reflexology and acupressure can provide a positive effect on anxiety and vital signs in patients with coronary artery disease

Author & Year	Title	Objective	Result Design	Research Result
Maryam Salmani Mood a , Zahra Yavari, Hamidreza Bahrami Taghanaki, Gholamhossein Mahmoudi rad 2021	<i>The effect of acupressure on fasting blood glucose, glycated hemoglobin and stress in patients with type 2 diabetes</i>	This study aims to evaluate the effects of acupressure on blood pressure, blood sugar, and stress in patients with type 2 diabetes.	This research design uses a randomized controlled clinical trial.	The results of this study indicate that acupressure has a significant effect in reducing blood pressure, blood sugar levels, and stress in patients with type 2 diabetes. The acupressure group had significantly lower systolic and diastolic blood pressure, lower fasting blood sugar levels, and lower stress scores compared to the sham group.
Marzieh Nekooi, Fatemeh Bazargani pour, Mohammad Zoladl, Reza Heshmat, Shahintaj Aramesh , and Nazafarin Hossein 2022	<i>Effect of Acupressure on Health-Related Quality of Life in Patients with Polycystic Ovarian Syndrome: A Randomized Clinical Trial</i>	This study was conducted to determine the effect of acupressure on health-related quality of life in patients with polycystic disease.	This research design uses a Randomized Clinical Trial	The results showed that at week 18, the clinical symptom scores and total testosterone levels of the intervention group were lower than those of the control group, related to health, the quality of life scores in the intervention group were higher than those in the control group, and this was statistically significant ( $p < 0.05$ ). Emotional problems were reduced in this study, indicating the effect of acupuncture in reducing anxiety and depression. Acupressure can improve the regulation of cortisol secretion and ultimately reduce anxiety by increasing the production of serotonin and endorphins. Acupressure improves endocrine function, can help regulate hormones and reduce mental disorders in PCOS patients. Acupressure at these points is recommended as a practical and effective treatment method for polycystic ovary syndrome.
Bomi Kim and Hyojung Park 2023	<i>The effects of auricular acupressure on blood pressure, stress, and sleep in elders with essential hypertension : a randomized single-blind sham-controlled trial</i>	This study aimed to examine the effects of auricular acupressure on blood pressure, stress, and sleep quality among elderly people with essential hypertension in Korea.	This study design used a randomized single-blind sham-controlled trial.	The results showed that auricular acupressure caused improvements in blood pressure, stress, and sleep in elderly people with essential hypertension. There were statistically significant differences between the two groups in systolic blood pressure ( $F=5.67$ , $P=0.022$ ), diastolic blood pressure ( $17.53$ , $P<0.001$ ), and heart rate ( $F=6.78$ , $P=0.013$ ) over time. Stress index ( $\chi^2=2.12$ , $P=0.040$ ) and sleep efficiency ( $\chi^2=3.57$ , $P=0.001$ ) were also significantly different before and after the experiment. Therefore, auricular acupressure can be used as an alternative nursing intervention for the prevention of hypertension, stress, and sleep management.

Article review shows the effect of acupressure on several psychological symptoms of chronic disease sufferers, including:

1. Acupressure has an effect on anxiety in people with chronic diseases. Acupressure helps reduce anxiety in patients undergoing hemodialysis, working by regulating the concentration of neurotransmitters that cause a decrease in the concentration of adrenocorticotrophic hormone and hydroxytryptamine-5 in the nerve pathways, thereby increasing relaxation that can help reduce anxiety (Dehghanmehr et al., 2020). In patients with knee osteoarthritis, anxiety can reduce physical activity and social and psychological life of patients and worsen pain symptoms. Anxiety can be treated with pharmacological and non-pharmacological therapy. Acupressure produces a relaxing effect and decreases sympathetic system activity which also has an effect on reducing anxiety levels (Rani et al., 2020). Wrist acupressure can be effective in helping to reduce anxiety in patients with mild insomnia, working by stimulating the HPA axis (hypothalamus-pituitary-adrenal) which is an important indicator in influencing sleep quality (Yuan et al., 2021). Acupressure also helps reduce anxiety levels in female patients with coronary artery disease (Vasokolaei et al., 2019).
2. Acupressure has an effect on depression in some chronic diseases such as patients undergoing hemodialysis, knee osteoarthritis, breast cancer and stroke patients. According to Traditional Chinese Medicine (TCM), a symptom of a disease is caused by an imbalance of energy (Qi) in the body. Through stimulation by pressing several meridian points in the body will regulate Qi and organ function, activate the meridians and thus achieve the effect of treatment for various symptoms of the disease (Dehghanmehr et al., 2020) (Rani et al., 2020)(Li et al., 2023) (Yin et al., 2022b).
3. Acupressure is effective in reducing stress levels in patients with type 2 diabetes mellitus and hypertension patients (Salmani Mood et al., 2021) (Kim & Park, 2023).
4. Acupressure has an effect on the quality of life in people with chronic diseases. Polycystic Ovary Syndrome (PCOS) has levels of luteinizing hormone (LH), follicle FSH, adrenocorticotrophic hormone (ACTH), insulin, cholesterol and triglycerides compared to healthy people, this can affect ovulation disorders and even infertility which can reduce quality of life. Acupressure works by affecting the hypothalamus-pituitary-ovary and increasing central beta endorphin which causes increased ovulation and decreased testosterone causing decreased endocrine disorders that can help relieve PCOS disorders (Nekooi et al., 2022). Acupressure is also effective in improving the quality of life in hypertensive patients (Kim & Park, 2023).
5. Acupressure has been shown to be effective in improving insomnia in breast cancer patients (Li et al., 2023)(J. Zhang et al., 2023).

## **DISCUSSION**

Based on the review of articles that have been conducted, it was found that acupressure has a positive effect on psychological symptoms in patients with chronic diseases. including relieving patient symptoms such as depression and anxiety in patients undergoing hemodialysis, reducing pain that can contribute to improving physiological health in osteoarthritis patients, overcoming insomnia that is often accompanied by anxiety disorders, emotional disorders (worry, nervousness, irritability), fatigue and depression in patients with anxiety disorders and breast cancer, treating depression, anxiety, and insomnia in acute stroke patients improving stress index, and sleep efficiency in the elderly with essential hypertension, reducing anxiety in women with coronary artery disease (CAD), decreasing glucose levels, decreasing average stress scores and improving quality of life in patients with type 2 diabetes mellitus improving quality of life related to health, including hirsutism, acne, menstrual disorders, weight, emotional disorders, and infertility in patients with polycystic



ovary syndrome (PCOS) (Dehghanmehr et al., 2020), (Rani et al., 2020), (Li et al., 2023), (Yin et al., 2022b), (J. Zhang et al., 2023), (Yuan et al., 2021), (Vasokolaei et al., 2019), (Salmani Mood et al., 2021), (Nekooi et al., 2022), (Kim & Park, 2023).

The results of this scoping review discussion are in line with previous research conducted by Sangani et al. by performing acupressure on the Yin Tang and HT7 points. The acupressure intervention lasted for 30 consecutive days, proven to be effective in helping to reduce anxiety, stress, and depression in the main family who care for stroke patients (Sangani et al., 2023). Salama et al's study found that acupressure at the acupuncture points Lu1, GV20 & GB20 three times a week was effective in improving postpartum depression (Salama et al., 2022). Acupressure at HT7, Yintang (EX-HN3), and GV29 points is significantly effective in reducing anxiety, stress, depression, and general psychological distress (Yildirim & Akman, 2021). Acupressure provides stimulation that has been proven to improve physical and psychological conditions in chronic patients (Abbasi, 2022).

According to traditional Chinese medicine (TCM) theory, acupressure stimulates the body's meridians to restore health by balancing the flow of "qi," which is considered vital bioenergy. Pressure applied to acupressure points regulates the sympathetic and parasympathetic nervous systems to create feelings of calm and harmony. Acupressure works by pressing on meridian points in the body that are distributed along the vagus nerve pathway, which influences the modulation of functional connectivity in the brain related to emotions. Stimulation of acupressure points also increases the release of endogenous neurotransmitters such as serotonin and endorphins, which produce a relaxing effect (Lin et al., 2022) (Yin et al., 2022). Acupressure can also act as an additional therapeutic approach combined with conventional medicine to reduce symptoms of disease, which can help improve psychological and physical health (Rani et al., 2020). Acupressure is a non-invasive complementary treatment that is easy to do, does not require a lot of money and has minimal side effects. However, acupressure is not recommended for use on areas of the body that are injured, swollen, have fractures or broken bones, and burned skin (Adela Dwi Lestari, 2022).

## **CONCLUSION**

This Scoopyng review can answer the research question, namely acupressure has an effect on improving psychological symptoms such as anxiety, fatigue, sleep disorders, depression and helps improve the quality of life in patients with chronic diseases. Based on the results of the review research that has been carried out, the results of this article review can be used as evidence based on the management of psychological conditions in chronic patients using acupressure therapy. The results of the article review and the limitations of this article can be used as a reference to produce a better level of quality of further research.

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