

Acupoint Manipulation in Elderly with Comorbid Disorders

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Abstract. Health problems in the elderly are a natural thing to experience because there is a decline in the function of the organs of the body. Health problems in the elderly can be a serious problem because there are disorders of several diseases that occur simultaneously or known as comorbidity, not only physical disorders but also mental disorders. Therapy given at certain acupoints points is expected to help the elderly in reducing the disorder suffered. The research aimed to determine the effect of acupoint manipulation therapy on the health of elderly with comorbid disorders. The research method used was an experiment with pre and post-test. The number of samples used was 20 elderly with mental-physical comorbid disorders and divided into control groups and treatment groups. The treatment group will be given acupoint manipulation therapy and art therapy. Blood samples will be analyzed in a laboratory to determine the levels of TNF- in the blood, and mental health conditions obtained from the results of graphical tests. The results showed that the levels of TNF- and the results of the treatment group psychological test showed no significant results on the control group, but the level of anxiety and TNF- values in the treatment group was better than the control group. Based on the results of the study it can be concluded that acupoint manipulation therapy has not been able to provide good results, but there is hope that acupoint manipulation therapy can be developed as a complementary treatment method.

Keywords: *acupoint manipulation, elderly, comorbid disease*

INTRODUCTION

Health problems experienced by the elderly are natural problems that often suffer. Health problems occur due to the decreased physical condition and psychological conditions of the elderly. Health problems experienced by the elderly often involve not only one type of disease but also with other types of diseases. Health problems involving more than two types of diseases are known as comorbid disorders. Someone who has comorbid disorders can experience physical-physical illness such as someone who has diabetes and high blood pressure; or also physical-mental comorbid disorders such as someone who, in addition to having diabetes, also experiences depression.

Maramis wrote that of several elderly who received in-hospital care as many as 34% -50% of them experienced depression. The results of other studies state that 22% of the elderly experience symptoms of complete depression, and 28% experience incomplete symptoms of depression. The impact experienced by patients experiencing comorbid disorders is a decrease in quality of life [1], [2].

Modern methods of medicine are currently the main choice for people who experience disease disorders, especially diseases with comorbidities in hopes of recovery. The method of modern medicine is undeniably able to provide a good solution for people who have health problems, but modern medicine also provides side effects for patients. Alternative medicine can be the answer for patients with comorbid disorders to get natural and relatively safe complementary treatment.

Acupoint manipulation methods can be a complementary treatment for people suffering from comorbid disorders. Acupoint manipulation is a treatment method that combines local wisdom treatment methods, namely "uyeg-uyeg ranti" and knowledge of acupuncture points. Acupoint manipulation is a form of acupressure. Acupressure like acupuncture and has the same principle to stimulate energy or Qi, so the body relaxes. Acupoint manipulation is a method of treatment that is relatively safe, natural, simple, can be done independently and can help improve healing through the increased immune system (immunity)[3], [4].

Acupoint manipulation treatment methods are intended to help the elderly with mental-physical comorbidity in increasing health in a natural and relatively safer way. Health improvement in the elderly can be seen from their physical condition or by looking at the clinical parameters of the results of laboratory tests. One of the clinical parameters that can be used to see health status is Tumor Necrosis Factor- (TNF-).

TNF- is one type of cytokine that works when inflammation occurs in the body. The amount of TNF- in the blood will increase when the body is sick and will decrease if health conditions begin to improve. TNF- has a biological effect that is very broad in its function as a defense against pathogens. At the cellular level, TNF- can induce cell survival, proliferation, and differentiation, and apoptosis and necrotic cell death under certain conditions. TNF- is also known to be involved in the process of modulation of cell growth, inflammation, tumorigenesis, tumor metastasis, viral replication, and some autoimmune diseases [5],[6].

Previous research conducted by Chao Qi, et al. showed that acupuncture therapy significantly reduced the serum content of TNF- α , IL-6, CRP, NOS compared to the control group. Another study conducted by Ja Jeong, et al. in chronic headache patients found that the amount of interleukin (IL) -1 , IL-6 and tumor necrosis factor- (TNF-) contained in LPS culture supernatants in patients suffering Chronic headaches significantly increased compared to the healthy control group ($p < 0.05$). The cytokine condition changed to close to the healthy group cytokine level ($p < 0.05$) after getting treatment with acupuncture, although the levels remained high [7], [8]

Acupoint manipulation, combined with psychological therapy in elderly with physical-mental comorbid disorders aims to improve physical health as well as to help resolve anxiety and depression disorders [3]. Holistic treatment, both biologically, psychologically, environmentally and socially; in elderly with comorbid disorders needed because psychiatric disorders such as depression can worsen physical illness [1].

The method of treatment by utilizing acupoint points such as acupuncture can improve physical health known through TNF- expression and is expected to have a positive impact on depression and anxiety disorders [9], [10]. Psychological therapy given can also reduce levels of TNF- through decreased anxiety [11].

The research aimed to determine the effect of acupoint manipulation therapy on the health of elderly with comorbid disorders.

METHOD

This research is an experimental study using pre and post sample data. The sample used in the study was 20 elderly aged 45-75 years who experienced physical-mental comorbid disorders. Determination of comorbid disorders in the elderly who became the study sample obtained through the examination of doctors and psychologists. The sample divided into two groups, namely the treatment group and the control group. The treatment group will be given therapy in the form of manipulation at the ST-36 acupoint point. Manipulation on the ST-36 acupoint done by rubbing the area around the ST-36 point by hand or by using a tool. Each time the therapy is carried out for 10-15 minutes and carried out three times a day and carried out for 30 days. Elderly in the treatment group will also be given psychological therapy in the form of graphic therapy four times in 30 days. Graphic therapy is given in the form of free drawing and coloring of the pictures provided. Participants in the control group and treatment group will be taken blood samples and data on their psychological condition before and after treatment. Blood samples were analyzed in biomedical laboratories to obtain TNF- content data. Psychological data taken through psychological tests were analyzed to obtain the psychological conditions of participants before and after treatment. The results of laboratory tests on the levels of TNF- in the blood were analyzed by statistical t-test to

see the effect of therapy in the treatment group compared to the control group.

RESULT

The results showed a decrease in the levels of TNF- in the blood based on insignificant t-test. The average value of a decrease in TNF- levels in the treatment group of 28.717 (ng / L) was not different compared to the control group.

Health problems, injuries, infections, or immune stimuli can cause the release of proinflammatory cytokines. Proinflammatory cytokines that are very effective at local and systemic inflammation are TNF- . Increased levels of TNF- also increase the production of other inflammatory cytokines such as IL-1 β , IL-6, and IL-18 during the inflammatory process. Increased levels of TNF- can help control infection, produce coagulation in damaged tissue, and improve tissue rehabilitation [12], [13].

Research conducted by Karatay, et al. showed that acupuncture therapy was given at acupoint Du-14, Li-11, St-36, and Sp-6, TNF- did not affect the immune system in cured subjects [12]. Research conducted by Cha et al. shows different results that the expression levels of IL-1 , IL-6, and TNF- in peripheral nerves and DRG in rats with nerve injury increased significantly. Different conditions occur after rats get therapy using Electro-Acupuncture (EA), the level of expression of cytokines in peripheral nerves, and DRG has decreased. These results indicate that EA stimulation can reduce the levels of proinflammatory cytokines that increase after nerve injury. The results of the study showed that there were no significant differences in the decrease in TNF- levels in the treatment group due to the lack of pressure and stimulation at the acupoint point. [12], [14].

The results of the psychological tests conducted also showed that in the treatment group after getting art therapy, the level of anxiety and depression disorders of participants was on average better than the control group. The number of participants with anxiety disorders and mild depression in the treatment group was more than the control group. The results of these psychological tests are synergistic with the results of laboratory tests, which obtained the average data of TNF- values post-test in the treatment group had a lower value than the control group.

Art therapy is a combination of art and therapy, but art therapy focuses on visualization arts such as drawing and painting. Art therapy is psychotherapy that can make clients break through obstacles in expressing themselves using simple art materials [15]. Art therapy provides a form of treatment that involves a person's feelings and experiences non-verbally and has the possibility of reducing anxiety [16], [17].

In anxiety conditions, TNF- expression increases during the chronic inflammatory phase, which provides strong evidence that TNF- contributes to the development of anxiety [18], [19]. Acupuncture is widely used to treat psychological problems such as anxiety and

depression, and in many tests shows that acupuncture rarely gives serious side effects [20]. Acupuncture can work by regulating the level of inflammatory cytokines produced by lipopolysaccharide (LPS) by inducing inflammatory cytokines (tumor necrosis factor (TNF), interleukin (IL) -1, IL-6) which can trigger depression or anxiety behavior [21]. Research conducted by Yue, et al. showed that Electroacupuncture (EA) significantly reversed the increase induced Chronic Unpredictable Stress (CUS) on P2X7, Iba-1, IL-18 receptors, TNF, and IL-6 expression and concluded that EA show antidepressant effects and reduce inflammation of the hippocampal nerve [22].

In this study, it is still not distinguishable whether the improvement in the mental condition of participants is influenced by art therapy and how strongly art therapy affects the improvement of the mental condition of participants. But in this study, it can be seen that the combination of acupoint manipulation therapy and art therapy has provided results in the improvement of physical-mental conditions in participants and this can be seen by decreasing levels of TNF- in the blood.

Improving mental-physical conditions through combined therapy of acupressure and art therapy can improve health conditions and also improve the expression of inflammatory cytokines such as TNF-. Improved health conditions can provide improved quality of life [23]–[25].

CONCLUSION

The results shown from this study indicate that the manipulation of the ST-36 access point can affect improving the health of the elderly, although it is not significant. Increased psychological conditions have also contributed to improving the health condition of the elderly based on the parameters of the content of TNF- in the blood. The application of acupoint manipulation in everyday life can be an alternative for the elderly as complementary medicine.

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