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EFFECTIVENESS OF INMAS ACUPUNCTURE AND LOCAL POINTS IN BACK AND SHOULDER PAIN IN VERTA MEDIKA ACUPUNCTURE KLATEN Purwanto1, Jatmiko Rinto Wahyudi2 1,2 Jurusan Akupunktur Poltekkes Kemenkes Surakarta ABSTRACT Background: Shoulder pain and low back pain usually arise because of overuse or excessive use. Acupuncture can relax back muscles, waist and shoulders through cutaneosomatic reflex; and increase the release of endorphins so that it can reduce inflammation in back, waist, and shoulders so that it can help relieve pain and restore the function of back, waist, and shoulders.

This study aims to determine differences betwen effectiveness of INMAS and local points acupuncture on pain and quality of life in workers with back and shoulder pain. Methods: This study is quantitative quasi experimental design with control group with pre and post test, conducted in July-September 2020 at Verta Medika Acupuncture, Klaten.

The population was all patients with shoulder and back pain who underwent acupuncture therapy and the sample was determined by inclusion and exclusion criteria and divided into two groups using simple random sampling. Each group consisted of 15 patients. Data analysis focused on pain scale (NRS) and quality of life (WHO-QoL). Result: INMAS technique was better at reducing pain scale (? = 0.001), quality of physical health (? = 0.083), quality of psychological health (? = 0,000), quality of social (? = 0,000), and quality of environmental health (? = 0.045).

Conclusion: INMAS technique is more effective than local points acupuncture for reducing pain levels and it improves the quality of life. Research using larger population and sample is needed to increase validity and reliability of the study. Cite this as: _

_ARTICLE HISTORY Received: Accepted: KEYWORDS Back pain-shoulder pain, acupuncture, INMAS, quality of life. CONTACT Purwanto *Email: purwanto.akp@gmail.com Jurusan Akupunktur Poltekkes Kemenkes Surakarta, Jln.

Letjen Sutoyo Mojosongo Surakarta, Indonesia _ _INTRODUCTION Work that is done manually using human power to lift or move items that are not done ergonomically will have the potential to cause injury or damage the body tissues due to excessive workload (Pramestari, 2017). Data shows that 25% of injuries to workers in Indonesia are caused by mishandling (Joice et.al., 2014).

Meanwhile, according to the Indonesian Ministry of Health, about 40.5% of workers have health problems related to their work with 16% muscle complaints called back pain and shoulder pain (Joice, et. al., 2014). Acupuncture can relax muscles in back area, waist and shoulders through cutaneosomatic reflex; and increase the release of endorphins so that it can reduce inflammation in back, waist, and shoulders so that it can relieve pain and restore back, waist, and shoulders functions. (Sun, et al, 2001).

INMAS (Integrative Neuromuscular Acupoint System) method is an acupuncture application that integrates modern biomedical science (anatomy, physiology, pathophysiology) and classical acupuncture (Traditional Chinese Medicine) in pain management related to impaired function of muscles, nerves, bones and internal organs (Ma et. al., 2005). Whereas in daily acupuncture practice, an acupuncturist often uses local points acupuncture applications in dealing with back and shoulder pain.

This study aimed to analyze difference in effectiveness of INMAS acupuncture method with local points on pain and quality of life for workers with back pain and shoulder pain. MATERIAL AND METHOD This study is quantitative quasi experimental design with control group with pre and post test (Dharma, 2011). Acupuncture interventions were held from July to September 2020 at Verta Medika Acupuncture, Klaten.

The population was all patients who suffered back and shoulder pain during the period and the sample was determined based on inclusion and exclusion criteria with simple random sampling technique to divide into two groups consisting 15 patients for INMAS method and 15 patients for local points acupuncture method. This study measured the pain scale (NRS) and quality of life (WHO-QoL) before and after acupuncture therapy which was carried out after 10 treatments for local points and using INMAS method according to the findings of palpation of H1 and H4. Data were analyzed using aplication of processing data named SPSS 23 series.

RESULTS Average pain scale reduction using INMAS treatment was 4.2000 and local

points was 2.1333 (? = 0.001). Figure 1. Pain scale reduction (NRS) before and after treatmen INMAS and local point Average increase in the quality of physical health using INMAS treatment was 12.9333 and with local points of 7.2000 (? = 0.083). Average increase in the quality of psychological health with INMAS treatment was 18.6000 and with local poins treatment was 10.0667 (? = 0.000). Average increase in the quality of social relations with INMAS treatment was 20.5333 and with local points treatment of 10.0000 (? = 0.000). Average increase in the quality of environmental health with INMAS treatment was 16.0000 and local points treatment was 10.2000 (? = 0.045). / Figure 2.

Improvement of Quality of Life (WHO QoL) before and after treatment INMAS and local points DISCUSSION Work mechanism of local points in acupuncture intervention is to break energy crisis at the puncture site, cause relaxation, improve blood circulation, improve healing of damaged tissue (Ma, et.al., 2005). Meanwhile, INMAS is an acupuncture therapy method that combines local, segmental, and central effect approaches through the combination of homeostatic points that provide dynamic balance to the body and function as a central analgesia in pain cases. One of homeostasis points in INMAS is Yanglingquan (GB.34) (HA.24/ Common Peroneal) which reduces pain and flexes muscles, and can repair contracted joint capsule (Dharmananda, 2005).

Paravertebral area is a segmental area based on distribution of segmental nerves from spinal cord which provides segmental analgesic effects. Stabbing in segmental area is a puncture application at the Hwatojiaji point (Ex. B) and Back Shu point which is the point as high as the internal organ and is the point of emitting energy (Qi) of the internal organs on back area (Saputra & Idayanti, 2005). Meanwhile, symptomatic stabbing is stabbing in local area of ??the pain.

Symptomatic stabbing in pain cases can use local acupuncture points and trigger points by using manual acupuncture, dry needling, and electroacupuncture techniques (Ma et.al., 2005). This is in line with research by Shi. et.al (2018) who showed that both conventional acupuncture and motion style acupuncture (MSA) provide improvement in pain and joint function to shoulder pain patients.

Rueda et.al. (2016) reported that reduction in pain intensity for acupuncture group provided better pain relief compared to sham acupuncture. The Assessment with the UCLA (University of California-Los Angeles) Shoulder Scale shows true acupuncture (TA) is clinically significant in improving shoulder function. Hu, et.al.

(2018) reported that comparing to sham acupuncture and needling, dry needling was more effective at reducing pain and disability in post-intervention of LBP, whereas its

effectiveness on pain and disability in follow-up was the same as acupuncture. Zhang H. et.al. (2016) assessed the progression of contralateral acupuncture effect (Intention-to-treat / ITT analysis) from week 2 to 16 showed significant pain relief by using contralateral acupuncture, CM (Constant-Murley) Score and DASH (Disabilities of the Arm, Shoulder and Hand) also increased at all time points (? <0.01).

Shoulder mobility, physical function, social functioning and mental health components of the SF-36 (Short Form Health Survey 36 items) were also improved by contralateral acupuncture. Green, S., et.al. (2005) using VAS (visual analogue scale) and shoulder function CMS (Constant-Murley Scor), after 5 weeks of acupuncture treatment, intensity of TrP (trigger points) decreased significantly (?<0.001). Shoulder function also improved significantly between pre-treatment and 5 weeks after TrP (?<0.001).

Comparison using the area under yield curve showed significant differences between groups (?= 0.024). Compared to SH (sham) acupuncture intervention, TrP (Trigger Points) intervention arises to be more effective for chronic shoulder pain. Lo, et.al. (2020) reported that electro acupuncture provided an earlier decrease in VAS than sham electroacupuncture.

In addition, electroacupuncture further improves AROM (Active Range of Motion) for flexion and abduction. Lee, et.al. (2018) reported that the thread-embedding acupuncture (TEA) or thread-implant acupuncture and regular acupuncture for 10 weeks showed significant improvements in VAS (visual analog scale), SF-MPQ (short-form McGill Pain Questionnaire) scores, and ODI (Oswestry Disability Index) in patients with chronic low back pain.

Comachio, et.al. (2020) reported results that EA (electro acupuncture) is no better than MA (manual acupuncture). Both therapies have same efficacy in reducing pain and disability for non-specific chronic low back pain. A meta-analysis study conducted by Furlan, et.al. (2005) reported that acupuncture was more effective at improving pain and short-term functional improvement in chronic low back compared with no treatment or sham treatment. The data suggested that acupuncture and dry needling can be useful addition to other therapies for chronic low back pain.

In testing the hypothesis, it can be seen the local points acupuncture compared to INMAS method on pain showed INMAS method was more effective than local points (? = 0.01). Hypothesis testing for quality of life WHO-QoL found that quality of physical health INMAS was no more effective than local points acupuncture (? = 0.08); quality of psychological health INMAS was more effective than local points acupuncture (? = 0.00), quality of social relations INMAS was more effective than local points acupuncture (? =

0.00); and quality of environmental health INMAS method was slightly more effective than local points acupuncture (? = 0.045).

This is possible because INMAS method looks at the body holistically so that INMAS method can reach out physically health dimensions by overcoming pain through symptomatic points, improving body balance both physically and psychologically through homeostatic points and segmental points (Ma et.al., 2005). The balance of physical health and social health will make someone have the ability to interact in social very well and can make the environment in which they live and work better and more productive.

A normal/ mentally healthy person is a person who has good behavior and is acceptable to society, his life attitude is in line with the norms & patterns of community groups, so that there are satisfying inter-personal and intersocial relationships (Dewi, 2012). Saputri (2012) reported in his research that the person with lower stress level (better psychological health) will have higher work productivity.

CONCLUSION Acupuncture can be applied to all musculoskeletal pain disorders in both formal and informal workers. INMAS method can be used as a good choice for the treatment of musculoskeletal pain in clinical services, especially back and shoulder pain. Further research using larger respondents and more complex methodologies and analyzes is needed to increase quality of research results.

ACKNOWLEDGEMENT The study was sponsored by Poltekkes Kemenkes Surakarta. The authors would like to acknowledge to Verta Medika Acupuncture for their support to participants. The author would like to express their gratitude to the acupuncture therapist Mr. Zulfikar, Ms. Cyndi, Ms. Septiana, Mr.Rona for their support for intervention of acupuncture therapy. REFERENCES Comachio, J., Oliveira, C. C., Silva, I., Magalhães, M. O., & Marques, A. P. (2020).

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