



THE EFFECT OF GIVING EXERCISE THERAPY WITH THE MCKENZIE METHOD IN THE ELDERLY TO REDUCE THE PAIN OF HERNIA NUCLEUS PULPOSUS (HNP)

Yoel Kristian Adi Candra ⁽¹⁾, Daniel Saka Pratama ⁽¹⁾, Deasy Virka Sari ⁽²⁾

1) *Physiotherapy Study Program, STIKES Telogorejo Semarang, Indonesia*

2) *Department of Physiotherapy, STIKES Telogorejo Semarang, Indonesia*

* Correspondence to : 720022@stikestelogorejo.ac.id

Abstract:

Background : Hernia Nucleus Pulposus (HNP) is a state when the nucleus pulposus go out stand out then push to direction canal spinalis through annulus torn fibrosus. HNP often occur on area lumbar 4 - 2 lumbar 5 and lumbar 5 - sacrum 1. Pain in HNP due to by pathological processes in the column vertebral on discus intervertebral. By because that, from a number of the research that we get, giving therapy McKenzie workout effective in reduce pain Hernia Nucleus Pulposus (HNP).

Research Objective: To find out influence give therapy McKenzie's workout against Hernia Nucleus Pulposus Condition.

Methodology : Overview systematic from three related articles with give therapy McKenzie training on Hernia Nucleus Pulposus Condition.

Results : Therapy practice with McKenzie method can give significant effect to reduce painful on Hernia Nucleus Pulposus Condition.

Conclusion : Giving therapy practice with McKenzie method is able give influence reduce pain due to a herniated nucleus pulposus .

Research Contribution : Yoel Kristian Adi Candra is researcher main choose topic , write papers , and collect data. Daniel Saka Pratama looking for, studying document study, and collect data. Deasy Virka Sari review document study.

Keywords: Physiotherapy , Hernia Nucleus Pulposus , McKenzie, Elderly

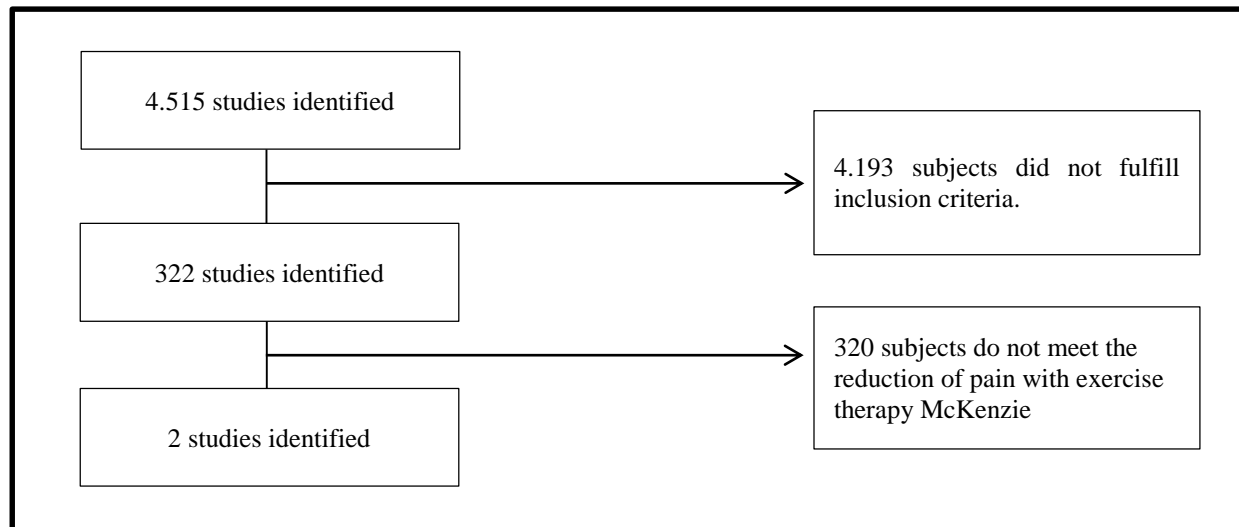
INTRODUCTION

Hernia Nucleus Pulposus (HNP) is a happening expenditure nucleus content of in the intervertebral disc so that the nucleus stands out to in annulus ring and give manifestation compression nerves that cause pain, limitation scope motion joints, and drop strength muscle. Modality physiotherapy that can used to handle problematic physiotherapy on Nucleus Pulposus Hernia Case of them is Infra Red, Transcutaneous Electrical Nerve Stimulation (TENS), and therapy McKenzie exercises to reduce pain, add scope motion joints and increase strength muscle. McKenzie method known also as Mechanical Diagnosis and Treatment (MDT) is therapy practice active using movement repeated or positions certain that can taught with destination reduce pain, disability and increase mobility bone back (McKenzie, 2011). Hernia nucleus pulposus is usual case found by physiotherapy. Physiotherapy is form service targeted health to individual and or groups to develop, maintain and restore motion and function body along cycle life with use handling manually upgrade motion, equipment (physical, electrotherapeutic and mechanical), training function, communication (Anggiat, 2020).



METHODS

Method study this using a systematic review journal literature review. Study this determine is there is drop significant pain on Hernia Nucleus Pulposus patient with modality therapy Mckenzie. A review thorough conducted on 2 topics: (1) hernia nucleus pulposus (2) reduction painful with modality therapy mckenzie. Effective search on purpose restricted on language English, with studies interesting on patient geriatrics and published in 10 years last. Study literature done in electronic database google scholar, Science Therapy Physique and pubmed, for period Among January 2012 and January 2022 (Putri et al., 2021).



Inclusion criteria that have been set by researchers based on research conducted are respondents experiencing HNP cases, respondents aged over 60 years, able to communicate with researchers. While the exclusion criteria in this study were respondents who experienced low back pain, respondents refused to be used as research material. The research was conducted for 8 meetings to see whether the MC Kenzie training was effective in reducing symptoms caused by HNP cases for grade 1 which the researcher had examined for the respondents (Putri et al., 2021).

RESULT AND DISCUSSION

On development era now to do activity everyday often cause various complaints that arise on waist. If in progress on period long time, will cause complaint on waist normal bottom called painful waist bottom. Pain that is felt could is painful local nor painful radicular or both. All existing structure the vertebral part is sensitive structure to stimulation pain, so can occur disturbance motion or irritation on structure this could cause symptom painful back lower wrong one of them due to Hernia Nucleus Pulposus (HNP) (Cookson & Stirk, 2019).

Action physiotherapy that can given on elderly is use practice McKenzie method. With action physiotherapy conventional and McKenzie's method gives good result on drop painful and enhancement ability functional. McKenzie's workout is wrong one technique practice repeated with movement extension, which aims to strengthen and stretch muscle extensor and flexor joints lumbo sacral that can reduce pain (Cookson & Stirk, 2019). Principle practice this is repair posture body to reduce hyperlordosis lumbar. McKenzie 's workout is effective intervention for problems musculoskeletal. McKenzie workout





given for practice mobilization, manipulation and strengthening muscle flexor and stretching muscle extensor that can reduce pain (Petersen et al., 2015). Therapy McKenzie method done with dose three times a week with repetition each movement 10 times. After that , done as much as 3 repetitions. therapist monitor condition patient During therapy McKenzie and method ensure patient To do practice with right. McKenzie method done a total of 6 sessions for 1 month (Anggiat, 2020).

Studies show as many as 11 articles reporting that McKenzie Exercise can lower painful on patient with painful back bottom non specific compared with other intervention or no given intervention. Of several study the could concluded implementation therapy conventional and McKenzie method can give good influence on elderly with LBP due to HNP. Clare (2004) reports that therapy McKenzie's workout earns subtraction patient painful back lower compared therapy standard other. This thing because drop painful possibility caused by mechanism training using the principle of vascular repair so that occur disappearance metabolites and painful algogenic. Besides that, McKenzie 's workout will lower pressure on annulus posterior fibrosus through movement extension, so that painful reduced (Clare, 2004).

First author/ year	Type of study	Sample	Assessment and intervention	Clinical outcome	Significance
(Cookson & Stirk, 2019)	Systematic Reviews and Meta Analyzes	1 patient	Assessment: Straight Leg Raise Test (SLR) (+), Crossed Straight Leg Raise Test (+), and Valsalva's maneuver test (+). Intervention: TENS Modality , McKenzie Exercise.	There was significant to reduce pain for HNP	P < 0.01
(Putri et al., 2021)	systematic review and meta-analysis	100 patients	Assessment: Visual Analog Scale (VAS) and Numerical Rating Scale (NRS) as tool measuring painful test McKenzie Exercise Interventions: McKenzie Exercises with Short Wave Diathermy (SWD) and Transcutural Electrical Nerve Stimulation (TENS)	Effective in reducing pain in HNP non specific	P < 0.001



CONCLUSION

Of all results that, can concluded that gift modality therapy McKenzie's workout can give effect drop significant pain along with treatment others, such as stretching exercise, and avoid movement lift while bend down on patient with hernia nucleus pulposus condition lumbar .

AUTHOR'S CONTRIBUTION

Yoel Kristian Adi Candra is researcher main choose topic, write papers, and collect data. Daniel Saka Pratama looking for, studying document study, and collect data. Deasy Virka Sari review document study.

CONFLICT OF INTEREST

Writer state no there is conflict interest in writing this.

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REFERENCES

1. Anggiat, L., Fransisko , IJ, & SSt.Ft , S. (2020). Therapy Conventional And Method Mckenzie On seniors With Low Back Pain Conditions Due to Nuclear Hernia Pulposus lumbar . *Journal Physiotherapy And Rehabilitation* , 4 (2), 44–57. <https://doi.org/10.33660/jfrwhs.v4i2.113>.
2. Cookson, MD, & Stirk , PMR (2019). MANAGEMENT OF PHYSIOTHERAPY IN THE CASE OF LUMBAL HERNIA NUCLEUS PULPOSUS 3 – 5 AND SACRUM 1 IN SUKOHARJO Hospital.
3. Clare HA, Adams R, Maher CG (2004). A systematic review of the efficacy of McKenzie therapy for spinal pain. *Aust J of Phys*. 50(4): 209–216. DOI: 10.101- 6/S0004-9514(14)60110-0.
4. McKenzie, R. 2011. *Treat your own back*. Ninth Edition. New Zealand. Spinal Publications New Zealand Ltd.
5. Petersen T, Christensen R, Juhl C (2015). Predicting a clinically important outcome in patients with low back pain following McKenzie therapy or spinal manipulation: A stratified analysis in a randomized controlled trial. *BMC Musculoskeletal Disord* . 16(1): 1–7. DOI: 10.1186/s12891-015-0526-1.
6. Putri , SADMM, Kristiyanto , A., & Prasetya , H. (2021). Meta-Analysis the Effectiveness of McKenzie Exercise to Reduce Pain in Patients with Non-Specific Low Back Pain. *Journal of Epidemiology and Public Health* , 6 (1), 33–41. <https://doi.org/10.26911/jepublichealth.2021.06.01.04>



