



The Effect of Low Impact Aerobic Exercise on Static Balance Levels of Elderly Women Medan Healthy Spirit Gymnastics Club 2023

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Abstract

This study aims to determine the effect of gymnastic exercises aerobic low impact against ratestatic balance in elderly women at the Medan Senam Semangat Sehat Club in 2023. The problem in this study is that based on the results of observations and observations that have been made by researchers the level of static balance in elderly women is not normal. This research was conducted at the Medan Sunggal Healthy Spirit Gymnastics club. This study uses an experimental method by design none group pre-test dan post-test. The population is 41 people and the sample in this study is 11 elderly women in the Senam Semangat Sehat club. The sample is taken using a purposive sampling technique. Data analysis techniques using statistical analysis include normality tests, homogeneity test, and hypothesis testing. The results of data analysis from the influence of gymnastics aerobic low impact against ratestatic balance in elderly women in the Senam Semangat Sehat club. Obtained Count = 11.238 > ttable = 1.812 at the real level $\alpha = 0.05$ and the difference in the average increase between the results pre-test 31.54 and post-test 36.27. Based on the research results that have been obtained by analyzing and testing the hypothesis, it can be concluded that there is a significant effect of gymnastic training aerobic low impact against ratestatic balance in elderly women at the Medan Senam Semangat Sehat Club in 2023.



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INTRODUCTION

Gymnastics, or what is often termed gymnastics, is one of the most popular sports. In order to understand the meaning of the term gymnastics, it is important to address a number of issues related to the definition of gymnastics. The Dutch words “gymnastiek” and the English words “gymnastic”, respectively, are translated as gymnastics (Alex et al., 2012). Gymnous, which in Greek means naked or semi-naked, is the root of the term gymnastiek. So that the motion is perfect without interruption (Yulianto, 2009). FIG (federation international de gymnastique) divides gymnastics into several categories, including artistic gymnastics, sporty rhythmic gymnastics, acrobatic gymnastics, aerobics, trampoline gymnastics, and general gymnastics, according to (Mahendra, 2000). Considering the various types of gymnastics, It is clear from the previous description that gymnastics is a body movement activity that is selected and put together deliberately and methodically with the aim of building and improving physical fitness (O. Bompa & Haff, 2019). Gymnastics is a sport that reflects the quality and demands of human mobility by incorporating various motion talents. Based on the results of observations and interviews that researchers conducted at the Medan Sunggal Tanjung Rejo Healthy Spirit Gymnastics club, chaired by Mr. Ahmad Sopian. Researchers made observations on January 11, 2023. Researchers observed that some participant members at the senam semangat sehat club were more dominantly elderly women aged 60- 74 years around 51% and pre-elderly women aged 45-59 years around 48%. However, in this study the researchers focused more on the balance level of

elderly women aged 60-74 years. Researchers observed that elderly women in the senam semangat sehat club experienced a decrease in physiological function. Reduced sensory input, slower motor responses, and musculoskeletal problems are all common in the elderly.

(Budiharjo et al., 2005) The physical ability of the elderly will decrease if they don't exercise. The static balance of elderly people will decrease due to poor postural muscle support. Of course, these modifications will have an impact on how old the person is standing and their ability to keep their body balanced on the fulcrum. This disease causes balance problems in elderly people when they stand, which makes them fall more easily. Researchers observed that elderly women in the Healthy Spirit Gymnastics club experience a decline in physical physiological function in static balance (Sitepu & Nasution, 2019). In order to have good static balance a person must do sports activities such as gymnastics (Darsi, 2018).

The researcher observed that the static balance of elderly women at the senam semangat sehat club was unsatisfactory due to the aging factor which reduced the body's resistance and balance against pressure both from within and outside the body (Kementerian Kesehatan RI, 2016) . In addition to the aging factor, the exercise that is carried out also affects static balance in elderly women. If the exercise is too high impact with a variety of movements that are difficult to imitate, it will make elderly women feel tired and bored easily (Nayarti, 2021). This resulted in several elderly women stopping while the exercise was in progress and choosing to rest. Researchers observe that elderly women in the senam semangat sehat club do not understand how important static balance

is for the elderly to maintain life (Irawati, 2018). If elderly women often do physical activity, the static balance will increase. When the researcher conducted an interview with the head of the senam semangat sehat club, Mr. Ahmad Sopian, stated that the dominant profession for elderly women in the senam semangat sehat club was as a housewife (Suparwati et al., 2017). A housewife will carry out activities such as doing household chores every day, if she doesn't have a good static balance she will be at high risk of falling easily. Even in carrying out sports activities, static balance is needed (Khasanah, 2018). As for the results of the initial tests or observations that the researchers did to be able to find out the level of static balance of elderly women (Prastiwi et al., 2020). This test itself was carried out using a marker and ruler, researchers measured static balance tests on elderly women in a standing position and the body parallel to the wall then the hands were clenched into fists parallel to the shoulders (90° flexion). Then the elderly woman bent her body until it crossed the predetermined line. The time in treating this test is 15 seconds and only one test is done (Dwijayanti, 2015).

(Rohmah et al., 2017). The researcher is interested in conducting research that can help solve the problems observed in elderly women at the Medan Sunggal Tanjung Rejo Senam Semangat Sehat Club which results in static balance in elderly women due to the problems mentioned above. In order for the elderly's ability to maintain posture and prepare to start movement to be better and more regular, static balance in the elderly needs to be studied, and a solution needs to be found. Of course, it will increase the independence of the elderly and reduce the danger of injury (Mendes et al., 2018). (Rasak, 2022) Researchers want to apply physical activity that is carried out regularly in elderly women by

doing low impact aerobics. This is a more relaxed exercise with movements that are easy to imitate, which according to researchers is suitable for the elderly Liskustyawati, H., Utomo, T. A., Mukholid, A., (Liskustyawati et al., 2021). Low impact aerobics or low intensity exercise, keeping the feet on the ground when done with a gentle rhythm (Lovelita, 2018). Apart from being able to follow the exercises easily, older women can get the advantage of low impact aerobic music, which makes them not bored. So that elderly women will implement regular physical activity and at the same time have the potential to improve and increase their static balance. Researchers are interested in conducting a study entitled "The Effect of Low Impair Aerobic Gymnastics on the Static Balance Level of Elderly Women at the Medan Sunggal Senam Semangat Sehat Club in 2023".

METHODS

Please provide concise but complete information about the material and the analytical, statistical and experimental procedures used. This part should be as clear as possible to enable other scientists to repeat the research presented. The use of subheadings to divide the text is encouraged.. In case of animal/human experiments or clinical trials authors must give the details of ethical approval. This study used an experimental research approach with a one group pretest posttest research design. Several criteria were considered when selecting samples for this study, including elderly women, aged 60-69 years, willing to be a sample, willing to take part in an exercise program during the study. The instrument for measuring static balance in this study uses the functional reach test (Manangkot et al., 2016).

Participants

The sample consisted of 11 elderly. Several criteria were considered when selecting samples for this study, including elderly women, aged 60-69 years, willing to be a sample, willing to take part in an exercise program during the study Sampling Procedures Sudjana. (1992).

RESULT

The results of measurements in the field are data obtained from observations. The test and measurement results show the pre-test and post-test data graphs as follows : The results of the pre-test based on the analysis of data descriptions for assessing the level of static balance for elderly women at the senam semangat sehat club in 2023 obtained a total of 347 with an average value of 31.54, resulting in a standard deviation of 2.06 with a range of 27 to 34. Meanwhile the results of the post test based on the analysis of the description of the data on the assessment of the level of static balance for elderly women in the senam semangat sehat club in 2023 after participating in the low impact aerobic exercise program experienced a change of 399 with an average value of 36.27, resulting in a standard deviation 1.27 with a value range of 35 to 38. The normality test uses the lilifors method. From the results of the Pre-test calculation column, it produces data L count = 0.149, and L table = 0.249 at significant = 0.05. Whereas in the post- test calculation results column L count = 0.221 and L table = 0.249 found at level = 0.05. Then the data will be said to be normal if L count < L table. The conclusion is that the data comes from a normally distributed population. Homogeneity testing is completed by using the level $\alpha = 0.05$. The results of the pre-test and post- test calculations on the homogeneity test are F count = 2.64 and F table = 2.98 obtained at significant = 0.05 (counter dk n-1 = 10).

Thus the calculated Fvalue is compared with the Ftable value. If the value of F count < F table data comes from a homogeneous variant. So it can be concluded that the data obtained comes from a homogeneous variant (Anak Agung Gede Satri, 2022). Based on the results of the calculations performed, we obtained the t count = 11.238 and t table = 1.812 at a significant level = 0.05 with dk = (11-1 = 10). Then the results are compared, if t count > t table then Ha is accepted and Ho is rejected. If Ha is accepted, it can be concluded that there is a significant effect of low impact aerobic exercise on the level of static balance in elderly women at the Senam Semangat Sehat Club in 2023 (Wati et al., 2018).

DISCUSSION

(Widiastuti, 2015) It is hoped that by discussing the research findings, it will be easier to draw conclusions. According to research, low impact aerobic exercise has a considerable influence on the level of static balance of elderly women Senam Semangat Sehat Club in 2023. Exercise that is suitable for the elderly is exercise that is more relaxed with movements that are more relaxed and easy to imitate. Low impact aerobics is an activity with a low intensity and soft rhythm that can be done while keeping your feet on the ground. The elderly can take part in low impact aerobics in a relaxed way, and music in low impact aerobics can keep the elderly from getting bored. So that regular physical exercise has the ability to improve static balance as well as being implemented.

(Udzakirah et al., 2019) The level of static balance can be determined to be influenced by low impact aerobic exercise. Based on the description given above, at the Medan Sunggal Senam Semangat Sehat Club in 2023. This study

aims to determine the effect of low impact aerobic exercise on static balance in the elderly. By providing 16 meetings of low impact aerobics exercises which provide new things in training and special experiences, especially for elderly women so that they can know their static balance level and for trainers can add insight into completing and prove that there is an effect of the training that has been given through data. that has been obtained, by giving low impact aerobic exercise so that there is an increase in static balance in elderly women (Sunanto, 2009).

CONCLUSION

The results of the hypothesis testing that has been done, it can be concluded that there is a significant effect of low impact aerobic exercise on the level of static balance in elderly women at the Medan Sunggal Senam Semangat Sehat Club in 2023. The results of this study indicate that applying regular and targeted low impact aerobic exercise can improve static balance in elderly women. So it is hoped that trainers who carry out gymnastics at the Healthy Spirit Gymnastics club will be able to apply this low impact aerobic exercise program to improve the overall static balance of elderly gymnastics participants. For future researchers to be.

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