

# Otago exercise program reduce pain in patients older than 60 years old suffering from low back pain by improving their motor control: An infographic

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**Abstract:** Pain is a major public health issue among community-dwelling older adults. In addition to being strongly associated with reduced physical function, loss of independence, psychological distress, lower quality of life, and risk of earlier death. Recent research has also found that pain in older adults is associated with a higher risk of falls, which itself is another major health concern. Long-term and high-intensity pain are predictors of chronic pain and pain-related disability. Therefore, establishing an evidence-based intervention that can reduce both pain and falls in older adults is of high importance. Infographics or information graphics are easy-to-understand visual representation of knowledge. Healthcare professionals already use infographics to communicate medical information to their patients. A firm grasp of health information enhances patients' decision making capabilities and may improve the practitioner-patient relationship. Infographics can also be used at the population level for public health messages. An infographic outlining whether the motor control that offers the Otago exercise program will be reduce secondary and the pain in patients older than 60 years old and suffering from low back pain was developed.

**Keywords:** Infographic, Otago exercise program, Greece.

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## 1. INTRODUCTION

Otago exercise program (OEP) is a series of warm up, strength, balance and stretch exercises delivered by a Physical Therapist at home or in group for frail older adults and reduces falls between 35 and 40%. This evidence-based program, developed in New Zealand, calls for physiotherapists to assess, coach and progress patients over the course of six months to one year. [1]

Falls in older adults can cause significant physical and psychological injury to the individual. Falls also incur significant costs for health care providers. Research shows the OEP is effective in reducing the risk of death and incidence rate of falls over a one year period in older adults. The OEP has also been shown to be a cost effective intervention, particularly for adults over 80 years old. [2-11]

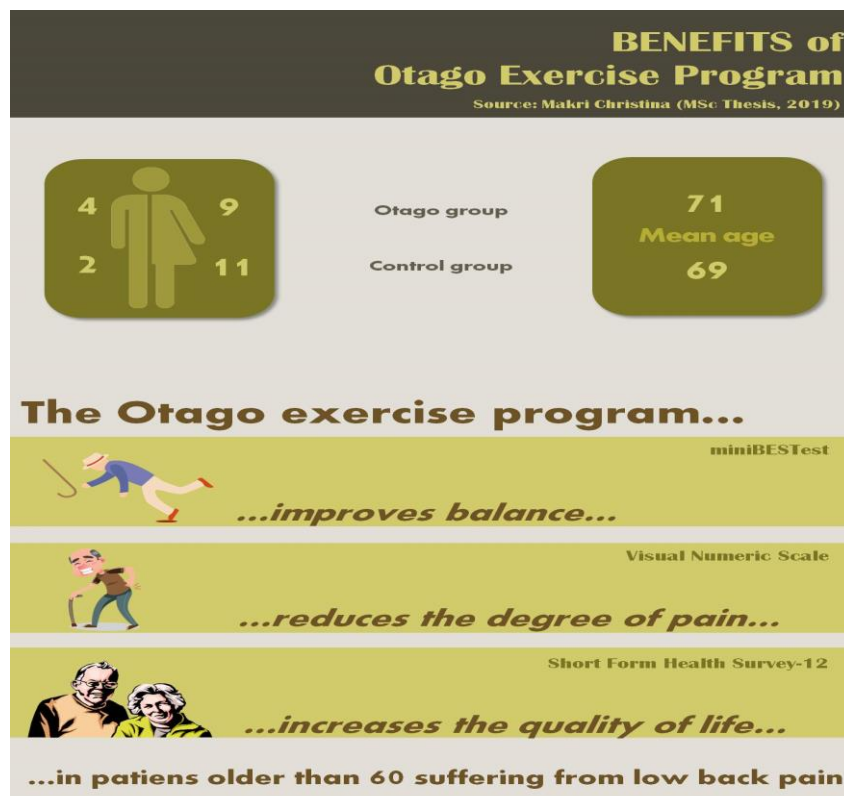
The OEP comprises five strengthening exercises and 12 balance exercises. Participants are instructed to perform the exercises three times a week. In addition, participants are instructed to walk twice a week for 30 minutes (can be broken into smaller periods e.g. three ten-minute blocks). Depending on the individual's strength and mobility, the exercises can be progressed. For example, adding hand weights to squats and other weight-bearing exercises or increasing repetitions. [12]

Infographics are an innovative and engaging method of visually communicating information in a colourful and concise manner. Evidence suggests that the representation of information in graphic format enhances our understanding and ability to make decisions. The concept of presenting information in graphical format is not new. A number of early examples of data visualisation exist from the eighteenth century; most notably the depiction of the deck layout of the British slave ship Brookes in 1788. [13]

## 2. RESULTS

Based on a research study done in Greece, in a postgraduate program, we developed an infographic. The study summary was as follows [14]:

“The purpose of this study was to examine whether to improve the motor control that offers the Otago exercise program will be reduce secondary and the pain in patients older than 60 years old and suffering from low back pain. A convenient sample of 26 persons (6 men and 20 women aged over 60 years old participated in the clinical trial and were divided at random into two groups; one group participated in a 12-week program of specialized exercises strengthen and balance Otago. The 2nd group performed for 12 weeks classic trunk stabilization exercises program. Leaflets were given. At the same time both groups received 2-week traditional physiotherapy program, suitable for low back pain (tens, ultrasound and massage). We used Mini-BESTest balance scale, pain scale and quality of life scale evaluation SF12. Statistical analysis was performed to investigate any variations as to these scales for the people of 2 groups. The results show that the people of the Otago group received intervention show greater improvement in balance on the basis of the Best Mini scale ( $M2 = 17.04 \pm 1.28$ ) in relation to those of the first group  $M1 = 9.96 \pm 2.26$ . The display difference is statistically significant at 0.05 significance level ( $p\text{-value} = 0.017 < 0.05$ ). The people of Otago group intervention exhibit lower levels of pain scale-based VNS ( $M2 = 4,46 \pm 0.51$ ) in relation to pain levels of people in the first group ( $M1 = 2.38 \pm 0.88$ ). The display difference is statistically significant at 0.05 significance level ( $p\text{-value} = 0.00 < 0.05$ ). Finally, as to the quality of life, the results indicate that the people of the second group exhibit better quality of life based on the scale of SF12 ( $M2 = 39.8 \pm 3.29$ ) compared with those in the first group ( $M1 = 36.3 \pm 3.90$ ). The display difference is statistically significant at 0.05 significance level ( $p\text{-value} = 0.022 < 0.05$ ). We conclude therefore that as we improve motor control thought the exercise, we reduce the pain”



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