



EFFECTIVENESS OF CORE STABILITY EXERCISES TO IMPROVE THE BALANCE AMONG ELDERLY PEOPLE - A NARRATIVE REVIEW

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ABSTRACT

In this study the literature review focus on the available evidence for physiotherapy intervention to improve the balance among elderly people. Research involved a computerized data base pertaining to studies that include the physiotherapy among elderly people seven articles that showed outcome relative to improve balance, physiotherapy intervention to improve the balance among elderly patient, in among elderly people are at an impaired balance especially when walking, due to age related changes reduce in sensory perception, muscle strength coordination vestibular system and proprioception. In this literature review explained physiotherapy intervention core stability exercises improve balance among elderly people, affect balance leads to difficult of walking and difficult functional activity minimal literatures on improve balance there is scarcity of study which intervention among core stability exercises and Caithorne Cooksey exercises.

AIM – The Study Aimed to Find the Effectiveness of Core Stability Exercises to Improve the Balance Among Elderly People

KEY WORDS: Balance, Elderly People, Intervention, Sensory Perception, Proprioception.

SEARCH METHOD: Balance On Elderly Population (Definition, Incidence, Prevalence, Etiology, Pathophysiology) Core Stability Exercises, Caithorne Cooksey Exercises on Search Bar in Google Scholar, PubMed, Scopus Index.

SELECTION CRITERIA

INTRODUCTION

Impairments to the sensory, motorcentral nervous systems can also result in instability in the elderly. Pathologies that target specific parts of these systems or the overall progressive loss of function brought on by aging in a healthy way can both lead to impairments. Regardless of the reason, balance control becomes more difficult, and there is a greater dependence on the remaining components when a sensory, motor, or central processing system component is compromised ^[1]. The ability to keep the body's center of gravity within the stability parameters set by the base of support is the simplest definition of balance. Age-related balance issues are most common among the elderly. The elderly are most likely to experience age-related balance problems; each year, one-third of people 65 years of age or older fall. Seniors' mental and physical health may suffer greatly due to the psychological fallout from poor balance. These ramifications include low self-esteem, concern about falling again, feelings of vulnerability, and decreased confidence in one's ability to perform physical tasks.^[2]

Ageing is a physiological process that is dynamic, progressive, and accompanied by changes in morphology, biochemistry, psychology, and function. India, the world's second-most populated nation, has experienced a notable surge in the number

of senior people, with projections indicating that by 2050, the number will reach approximately 324 million ^[3] When assessing an elderly subject's health, balance and gait are crucial factors to take into account. For those 65 to 69 years old, the projected percentage of self-report imbalance is 13%; for those 85 years and older, the proportion rises to 46%. ^[4] The muscles of the core act as a bridge between both the lower and upper limbs and force is transferred from the core, often called the powerhouse, to the limbs ^[5]. The core is important in providing local strength and balance and is central to almost all kinetic chains of daily activities. Core stability exercises refer to exercises that activate specific motor patterns of the muscles in the trunk by challenging spinal stability and trunk postural control. ^[6] The core is considered an integral link in the kinetic chain ^[7].

Exercises for core physical fitness may help lower the likelihood of developing other musculoskeletal diseases. ^[8] Core stability training is a form of training that challenges the spine's stability while training muscle activity patterns and postures that ensure sufficient stability without unnecessarily overloading tissue. ^[9]

The abdominals are in the front, the paraspinals and gluteals are in the back, the diaphragm is the roof, and the pelvic floor and



hip girdle musculature are the bottom of the muscular box that represents the core. [10] The dynamic function of muscle components is principally in responsible for maintaining core stability Lower extremity movement is clearly correlated with activation in the trunk muscles. Research indicates that improving one's core strength can help with functional abilities. decreased ability to move around in the musculoskeletal system is the main manifestation of the systemic deterioration of aging. Age-related deficiencies have traditionally been reduced through lower limb resistance training and or balance. Nevertheless, There is not much evidence that resistance exercise enhances balance, functional skills, daily living activities, or fall rates. Therefore, in order to combat age-related deficiencies, it is imperative that new intervention programs be created and carefully designed. [11]

NEED OF THE STUDY

Balance and gait are important considerations in the health of elderly subjects. It is estimated that 13% of adults self-report imbalance from ages 65 to 69, and this proportion increases to 46% in those aged 85 and older. [4] Many studies have been conducted. on the elderly to improve balance, but limitation studies on the Cawthorne Cooksey exercises and core stability exercises on improving balance require more further studies. Therefore, I sought to be a comparative study of the Cawthorne

Cooksey exercises and core stability exercises to improve balance among the elderly.

METHODOLOGY

SEARCH METHOD AND ELIGIBILITY CRITERIA

PubMed, Google Scholar, Medline, and Pedro were utilized to conduct a comprehensive literature search. English-language publications of the articles were excluded. Here, the articles were searched with the keywords. Criteria for inclusion and exclusion are filtered and finally, twenty three articles were obtained for the examine articles that weren't published in English were eliminated.

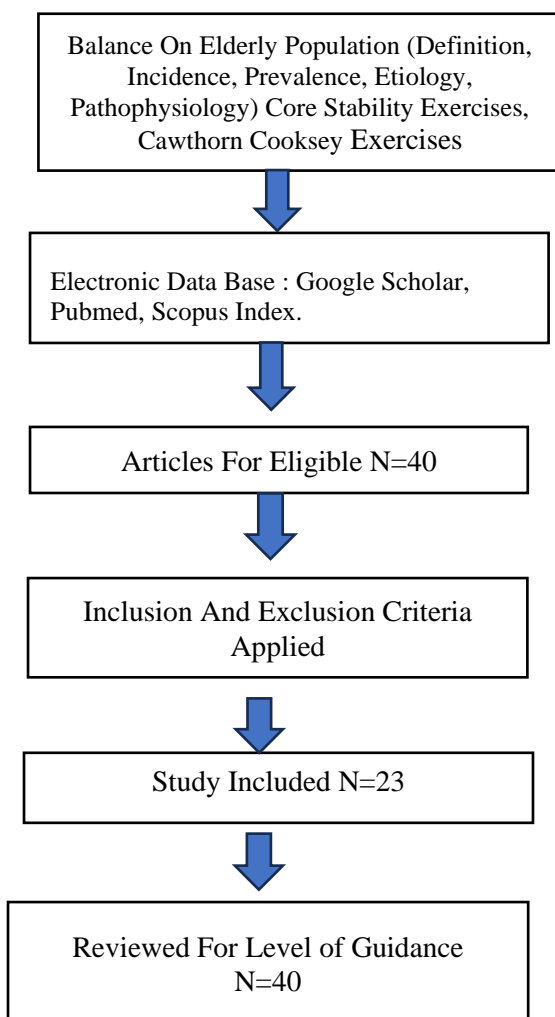
INCLUSION CRITERIA

- 1. Articles Discussing About Elderly People
- 2. Articles published most recent years.
- 3. Full-text articles.
- 4. Articles published in English.

EXCLUSION CRITERIA

- 1. Articles explaining surgical interventions.
- 2. Articles published in English language only

METHODOLOGY





SNO	TITLE OF THE ARTICLE	NAME OF THE AUTHOR	YEAR OF PUBLICATION	TYPE OF STUDY	MODE OF INTERVENTION	CONCLUSION
1.	The effect of adding core stability training to a standard balance exercise program on sit to stand performance in older adults: a pilot study	Cathy Arnold, Joel Lanovaz,	2015	Pilot study	Core stability exercises (EB group) and another receiving standard balance exercises (SB group).	In conclusion core stability training added to SB did not result in STS reps improvement compliance may modify these results and future larger sample studies should evaluate the impact of training for core stability on sts biomechanics .
2.	Effect of Core Stabilization Exercises on Balance Performance in Older Adults	Ketki Ponde1, Ronika Agrawal2, Nazneen Khalil Chikte3	2021	Comparative study	Core Stabilization Exercises on Balance Performance in Older Adults	According to statistical analysis, The Experimental group demonstrated a notable enhancement in BBS, Y – Balance Test and Functional Reach Test scores with ($p < 0.05$) post six weeks of intervention. Control group showed not much of an improvement in the Scores Core stabilization exercises had significant improvement on balance variable in Comparing the external group to the control group
3.	The effects of core stability exercises on balance and walking in elderly fallers with mild cognitive impairment: a randomized control trial	Hassan Sadeghi1 , Seyed Sadredin Shojaedin2 , Elham Alijanpour	2020	Randomized control trails	Core Stability Exercises, Continued with daily activities without specific intervention	Strengthening the muscles in the central region of the body appears to help older people maintain their balance during daily activities. As independence is essential for individuals who have already falling, doing these exercises at home can increase their independence and level of participation. They are also easy, affordable, and suitable for people with a history of falling.
4.	Randomized controlled trial of core strength training in older adults: effects on functional mobility	Nishad Abdul Latheef Majida* 1 , Nizar Abdul Majeed Kutty2	2015	Randomized control trails	Experimental Group (Core Strength Training) CONTROL GROUP Received no specific intervention	Together, our findings show that a core strength training regimen improved functional flexibility in older persons living in communities. Other senior independent living facilities could effectively implement the CST program to enhance mobility and balance while possibly lowering the risk of falls. Additional core strength exercise is inexpensive and safe to perform both inside and outside.
5.	The effect of selected core stability exercises on balance and muscle endurance in the elderly	Mehrdad Bastani, Gholamalighasemi	2017	Quasi experimental study	The intervention group (n=15) performed specific core stability exercises. The control group	Based on the results, the therapist recommended core stability exercises as a safe and practical way to help patients receiving hemodialysis with their balance and muscle endurance. This could lead



	patients undergoing hemodialysis				(n = 15) did not take part in the intervention.	to a decrease in the risk of falling because of poor balance and an increase in the patients' independence of movement.
6.	Comparative Effect of Core Stabilization Exercise and Active Video Gaming on Dynamic Balance in Elderly Female People: a single blind Randomized Controlled Clinical Trial	chatwalai Sonthikul, M.Sc.1 , Nurulhuda Hadhoh, B.Sc.2	2021	Single - blind Randomized control trail design	Core Stabilization Exercise and Active Video Gaming on Dynamic Balance in Elderly Female People:	Based on the study's findings, it appeared that performing core stability exercises could increase the strength of the muscles in the lower limbs and core. Active video gaming has the potential to enhance not only lower limb muscular strength and reaction time, but also dynamic balance, it is highly recommended that using active video gaming in elderly in addition they should provide significant information of improvements of muscle power and balance which may be beneficial for geriatric rehabilitation program .
7.	Effects of integrative core stability training on Balance And walking speed in healthy elderly people	Italo sannicandro	2020	Comparative study	Core stability program exercises recreational group , adapted plank exercises, turn and twist with light ball on one leg stance.	The results revealed a change in test score across the two time periods for csg in the mcgill sit up test (p<0.01), in the trunk extension (p<0.01)
8.	Differences in the effect of the combination of square stepping and gaze stabilization with square stepping and core stability on dynamic balance in the elderly	Muslimainia* Dita Mirawatib ;Asita Rohmah Mutnawasitoh c	2023	Quantitative study with a quasi-experimental design.	4 weeks, with square stepping, gaze stabilization, and core stability exercises conducted multiple times per week.	The study comes to the conclusion that the impact of exercise treatments on dynamic balance varies significantly among the elderly.
9.	Effects of Core Instability Strength Training on Trunk Muscle Strength, Spinal Mobility, Dynamic Balance and Functional Mobility in Older Adults	Urs granacher andre lacroix b	2013	Randomized controlled trial (RCT).	underwent a nine-week regimen of progressive core instability strength training (CIT), with no intervention given to the control group.	With a strong adherence rate, CIT has shown to be a workable workout regimen for seniors. CIT can help to reduce age-related losses in measures of spinal mobility, dynamic balance, trunk muscular strength, and functional mobility. Conventional resistance training and/or balance methods could be supplemented, if not replaced, with this training schedule.



10.	Impact of core fitness on balance performance in the elderly	Xu Y.	2022	randomized controlled trial	The experimental group receives the intervention (while the The control group is not given any assistance.	Core training can improve the elderly's functional physical ability and static balance capacity. <i>Evidence level II; Therapeutic Studies - Investigating the results.</i>
11	Effect of Core Strengthening Exercise Programs on Symmetric Double Limb Support and Balance Ability for the Elderly	Kang KY, Choi JH, Lee SB	2012	randomized controlled trial	Core Strengthening Exercise Programs	This study sought to apply the activities for strengthening the core to enhance the balance ability for elderly in a bid to study an effective exercise method to prevent getting a bruise from a fall. In conclusion, the core strengthening exercise was proven that it was effective in improving balance ability of elderly and in preventing getting a bruise from a fall. The subjects for this group was comparatively healthy. For a better research, it is considered that a study with elderly who have experience of getting a bruise from a fall is necessary.
12.	Effects of core muscle stability training on the weight distribution and stability of the elderly	Kwon-Young Kang, PhD, PT1)	2015	randomized controlled trial (RCT)	core muscle stability training, specifically targeting the transverse abdominis, multifidus, and pelvic floor muscles. Participants in the experimental group performed co-contractions of these muscles in various positions, such as maintaining a bridging position, crawling position, and stretching exercises involving the limbs.	Core muscle stability training should be considered as a therapeutic method for the elderly to increase their WDI, and SI, and as a fall prevention measure.
13.	Comparisons of berg balance scale following core stabilization training in women elderly	Amin Farzaneh Hesari 1, Solmaz Mahdavi 2	2012	Comparative study	Berg balance scale comparisons after core stability training	Programs for core stability Exercise is beneficial for senior citizens. with their postural control. Thus, Exercises for core stability can improve dynamic balance in addition to bolstering the central muscles, thereby reducing the aged population's risk of falls. Lastly, it is strongly advised that older adults who use core stabilization training enhance their daily living activities and reduce their chance of falling.



14.	Development of core strength training equipment and its effect on the Performance and stability of the elderly in activities of daily living	Kyung Koh1,3, Yang Sun Park	2016	quasi-experimental study	Participants in the intervention carried out core strengthening exercises with a rope and a stability ball that they pulled or pushed with two hands while lying on the ball.	Using the apparatus created for this study, the elderly's both efficiency and stability during daily living tasks were enhanced through the strengthening functional flexibility in
15.	The Effect of Eight Weeks Aquatic Balance Training and Core Stabilization Training on Dynamic Balance in Inactive Elder Males	Hajarjahadian Sarvestani, hosseinberenjeian Tabrizi,	2012	Randomized Controlled Trial (RCT)	Aquatic Balance Training (ABT), Core, Stabilization Training (CST), Control group.	It is possible to use both ABT and CST training methods. Furthermore, it is more appropriate and this type of training can be recommended to the geriatric society, even though both training types had an equal impact on improving balance in the inactive elder males. This is also because ABT is linked with greater safety and subject satisfaction.
16.	Effect of 6 week six of functional training and core stability on balance and quality of life in elderly women	Fateme Pourshian NajafabadiR eza Mahdavi Nejad2 ,	2013	randomized controlled trial (RCT).	intervention in this study is a training program focused on functional training and core stabilization.	This study demonstrated how a functional core stabilization exercise program can enhance older women's quality of life as well as their static and dynamic balance. Therefore, it seems that a functional training and core stabilization program is a helpful exercise to enhance standard of living and balance, lower the chance of falling, and lower medical expenses.
17.	The Effect of 8 Weeks of Core Stability and Pilates Trainings on Ankle Proprioception, Postural Control, Walking Performance, Self-efficacy and Fear of Falling in Elderly Women	Zohreh Naderi Tehrani 1 , Khosro Jalali Dehkordi *	2018	Randomized control trails	involves two different training methods: core stability training and Pilates training.	It seems that Pilates and core stability trainings can be used in medical centers as a complementary rehabilitation method in order to Increase the ankle proprioception, balance, walking performance and decreasing the fall of old ladies.



18.	The Effects of cognition and functional performance on core stability in the elderly population: a cross-sectional study	Agris Liepa, Undine Gudina	2020	cross-sectional design	involve a combination of exercises and activities designed to improve static balance (e.g., standing on one leg, balance board exercises), cognitive tasks (e.g., dual-task training, cognitive exercises targeting attention and working memory), and core stability exercises (e.g., planks, pelvic tilts, stability ball exercises)	The core stability is significantly affected by cognition and static balance identifying the presence of neural circuits between them which when challenged may play a crucial role during the locomotor tasks.
19.	To compare the effect of modified pilates and core stabilization exercise on balance, core muscle endurance and lumbopelvic flexibility in elderly women	Dr. Naina Aggarwall , Dr. Mukesh Sharma2	2023	experimental design	effect of modified pilates and a core stabilization drill on balance, core muscle endurance and lumbopelvic flexibility in senior ladies.	The study provides evidence that both the interventions are effective and can be applied in clinical setup to improve balance and endurance of the central muscles and lumbopelvic flexibility in elderly women.
20.	The effects of core stability exercise in improving back muscle Strength, limb muscles and dynamic balance in the elderly in Singaraja, indonesia	Kadek Dio Agus Bagiartana 1 Titih Huriah	2023	randomized controlled trial	Core stability exercise in improving back muscle Strength, limb muscles and dynamic balance	This study proved that workout for core stability for four weeks Effectively increased back strength and leg muscles and Dynamic balance in the old age compared to controls. workout for core stability can be performed at home to maintain and Improve muscle strength in the legs, back, and dynamic balance
21.	Differences in the Influence of Core Stability and Balance Training Training on the Risk of Falling in the Elderly	Linda Sahrul, Ramadani1, Dwi Kurniawati2,	2023	randomized controlled trial (RCT).	Core stability and balance training	Core stability has more influence on reducing the elderly's danger of falling than balance training Group.
22.	Design and development of a core strengthening exercise and rehabilitation machine for elderly	Sairag Saadprai1, Supattra Silapabanlen g2	2021	Experimental study	Core strengthening exercise and rehabilitation machine	The developed machine offers a safe and reliable solution for elderly individuals to improve core muscular power and overall health. Future studies could test the machine with elderly participants to further validate its effectiveness.
23.	The effect of abdominal drawing-in exercise and myofascial release on pain, flexibility, and balance of elderly females.	Seong Hun Yu, PhD, PT1)	2016	randomized controlled trial (RCT)	abdominal drawing-in group or group for myofascial release	According to the above research, myofascial release had an impact on the discomfort and flexibility of senior ladies who engaged in abdominal drawing-in exercise.



DISCUSSION

In this discussion on core stability exercises among people The exercises showed significant improvement in balance. Balance improvements may result from core stability workouts that focus on the deep spine stabilizers, which are necessary to build a strong foundation for the limb muscles to move on The result of the lumbopelvic-hip complex's muscular capacity and motor control is the core stability system. Cathy Arnold, Joel Lanovaz conducted that The impact of adding core stability training to a standard balance exercise program on Older seniors' performance from sit to stand a pilot study In conclusion training for core stability added to SB did not result in STS reps improvement compliance may modify these result s and future larger sample studies should evaluate the impact of training for core stability on sts biomechanics ^[12]

Ketki Ponde¹, Ronika Agrawal², Nazneen Khalil Chikte³ et al conducted study on Impact of the Core Stabilization Exercises on The ability to balance in older adults According to statistical analysis, The Experimental group demonstrated a notable enhancement in BBS, Y – Balance Test and Functional Reach Test scores with (p < 0.05) post six weeks of intervention. Control group showed not much of an improvement in the Scores Core stabilization exercises had significant improvement on balance variable in Comparing the external group to the control group ^[13]

Hassan Sadeghi¹, Seyed Sadredin Shojaedin², Elham Alijanpour et al conducted study on The benefits of walking and core stability exercises in older fallers with mild cognitive impairment a randomized control trial Strengthening the muscles in the central region of the body appears to help older people maintain their balance during daily activities. As independence is necessary for people who have a history of falling, doing these exercises at home can increase their independence and level of participation. They are also easy, affordable, and suitable for people with a history of falling. ^[14] Nishad Abdul Latheef Majida¹, Nizar Abdul Majeed Kutty² et al conducted study on Randomized controlled trial of core strength training in older adults: effects on functional mobility Together, our findings show that a core strength training regimen improved functional mobility in older persons living in communities. Other senior independent living facilities could effectively implement the CST program to enhance mobility and balance while possibly lowering the risk of falls. Additional core strength exercise is inexpensive and safe to perform both inside and outside. ^[15]

Mehrdad Bastani, Gholamali Ghasemi et al conducted study on Based on the results, the therapist recommended core stability exercises as a safe and practical way to help patients receiving hemodialysis with their balance and muscle endurance. This could lead to a decrease in the risk of falling because of poor balance and a rise in the patients' independence of movement. ^[16] Chatwalai Sonthikul, M.Sc.1, Nurulhuda Hadhoh, B.Sc.2 et al conducted study on Active video gaming has the potential to enhance not only lower limb muscular strength and reaction time, but also dynamic balance, it is highly recommended that using active video gaming in elderly in

addition they should provide significant information of improvement s of muscle power and balance which may be beneficial for geriatric rehabilitation program ^[17]

Italo Sannicandro et al conducted study on Effects of integrative core stability training on Balance And walking speed in healthy elderly people The results revealed a change in test score across the two time periods for csg in the mcgill sit up test (p<0.01), in the trunk extension (p<0.01) ^[18]

Muslimainia* Dita Mirawatib ; Asita Rohmah Mutnawasitohc et al conducted study on Differences in the effect of the combination of square stepping and gaze stabilization with square stepping and core stability on dynamic balance in the elderly The study comes to the conclusion that the impact of exercise treatments on dynamic balance varies significantly among the elderly. ^[19]

Urs Granacher, Andre Lacroix, B. et al conducted study on Impact of Core Instability Strength Training on Spinal Mobility, Dynamic Balance, Functional Mobility, and Trunk Muscle Strength in Elderly Adults With a strong adherence rate, CIT has shown to be a workable workout regimen for seniors. CIT can help to reduce age-related losses in measures of spinal mobility, dynamic balance, trunk muscular strength, and functional mobility. Conventional resistance training and/or balance methods could be supplemented, if not replaced, with this training schedule. ^[20] Xu Y et al conducted study on Impact of core fitness affecting elderly people's ability to balance Core training can improve the elderly's functional physical ability and static balance capacity. Evidence level II; Therapeutic Studies - Investigating the results. ^[21]

Kang KY, Choi JH, Lee SB et al conducted study on This study sought to apply the activities for strengthening the core to enhance the balance ability for elderly in a bid to study an effective exercise method to prevent getting a bruise from a fall. In conclusion, the core strengthening exercise was proven that it was effective in improving balance ability of elderly and in preventing getting a bruise from a fall. The subjects for this group was comparatively healthy. For a better research, it is considered that a study with elderly who have experience of getting a bruise from a fall is necessary ^[22]

Kwon-Young Kang, PhD, PT¹ et al conducted study on consequences of core muscle stability instruction in the weight distribution and consistency of the elderly conclusion Core muscle stability training ought to be taken into account as a therapeutic method for the elderly to increase their WDI, and SI, and as a fall prevention measure. ^[23]

Amin Farzaneh Hesari¹, Solmaz Mahdavi² et al conducted study on Berg balance scale comparisons in older women after core stability training Programs for core stability Exercise is beneficial for senior citizens. with their postural control. Thus, Exercises for core stability can improve dynamic balance in addition to bolstering the central muscles, thereby reducing the aged population's risk of falls. Lastly, it is strongly advised that older adults who use core stabilization training enhance their daily living activities and reduce their chance of falling. ^[24]



Kyung Koh^{1,3}, Yang Sun Park et al conducted study on Development of core strength training equipment and its effect on the Performance as well as the steadiness of the elderly in regular living activities Using the apparatus created for this study, the elderly's both efficiency and stability during daily living tasks were enhanced through the strengthening of the core exercise.^[25]

Hajarjahadian Sarvestani, hosseinberenjeian Tabrizi, et al conducted research The Impact of Eight Weeks of Core Stabilization and Aquatic Balance Training on Dynamic Balance in Elderly Males Who Are Not Active It is possible to use both ABT and CST training methods. Furthermore, The geriatric society can benefit from this kind of training as it is more suited, even though both kinds of training had an equal impact on enhancing equilibrium in the sedentary elderly males. This is also because ABT is linked with greater safety and subject satisfaction.^[26]

Fateme Pourshian Najafabadi Reza Mahdavi Nejad², et al conducted study on Effect of 6 week six of Core stability and functional training on equilibrium and standard of living in older women In summary This research showed how a functional core stabilization exercise program can enhance older women's quality of life as well as their static and dynamic balance. Therefore, it seems that a functional training and core stabilization program is a helpful exercise to enhance standard of living and balance, lower the chance of falling, and lower medical expenses.^[27]

Zohreh Naderi Tehrani¹, Khosro Jalali Dehkordi et al conducted study on The Effect of 8 Weeks of Core Stability and Pilates Trainings on Ankle Proprioception, Postural Control, Walking Performance, Self-efficacy and Fear of Falling in Elderly Women It seems that Pilates and core stability trainings utilised in medical centers as a complementary rehabilitation method to raise the ankle proprioception, balance, walking performance and decreasing the fall of old ladies.^[28]

Agris Liepa, Undine Gudina et al conducted study on The Results of cognition and functional performance on old people's core stability population: a cross-sectional study conclusion The fundamental stability is significantly affected by cognition as well as static equilibrium identifying the presence of neural circuits between them which when challenged may play a crucial role during the locomotor tasks.^[29]

Dr. Naina Aggarwal¹, Dr. Mukesh Sharma² et al conducted study on To contrast the impact of modified pilates and balance exercises using the core stabilization, core muscle endurance and lumbopelvic flexibility in elderly women The research shows that both the interventions are effective and can be applied in clinical setup to improve balance and endurance of the central muscles and lumbopelvic flexibility in elderly women.^[30]

Kadek Dio Agus Bagiartana¹ Titih Huriyah et al conducted study on The effects of core stability exercise in improving back muscle Strength, limb muscles and dynamic balance in the elderly in Singaraja, Indonesia This study proved that core

stability exercise for four weeks Effectively increased back strength and leg muscles and Dynamic balance in the old age compared to controls. Core Stability exercises can be performed at home to maintain and Improve muscle strength in the legs, back, and dynamic balance^[31]

Linda Sahru Ramadani¹, Dwi Kurniawati², et al conducted study on Differences in The Impact of Core Stability and Balance Training Training on The Elderly's Risk of Falling Core stability has more influence on reducing the elderly's danger of falling than balance training Group.^[32]

Sairag Saadprai¹, Supattra Silapabanleng² Design and development of a core strengthening exercise and rehabilitation machine for elderly The developed machine offers a safe and reliable solution for elderly individuals to improve core muscular power and overall health. Future studies could test the machine with elderly participants to further validate its effectiveness.^[33] Seong Hun Yu, PhD, PT¹ et al conducted study on The impact of myofascial release and abdominal drawing-in exercises on older women's discomfort, flexibility, and balance According to the above research, myofascial release had an impact on the discomfort and flexibility of senior ladies who engaged in abdominal drawing-in exercise.^[34]

CONCLUSION

All the above-reviewed strategies for enhancing elderly people's balance population are effective; hence, the above interventions are recommended. Core stability exercises offer promising benefits for improving balance, functional mobility, and muscle endurance in older adults. These exercises should be considered an integral component of comprehensive geriatric rehabilitation programs aimed at promoting healthy aging and preventing falls in elderly populations.

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