Gender distribution of people in study groups health and social care essay

Sociology, Gender Studies

Sensory system involvement is modulated within various conditions as follows:• Condition 1: Three sensory systems available for balance (vision, vestibular, somatosensory).• Condition 2: Vestibular and somatosensory available. Vision absent.• Condition 3: Vestibular and vision available. Somatosensory compromised.• Condition 4: Vestibular available. Vision absent, somatosensory compromised. Equipment/set-up: Foam pad (dense enough to avoid bottoming out) and a stopwatch required. Starting Position: Patient stands with feet shoulder width apart and arms crossed over chest. Protocol: A 30-second trial is timed using a stopwatch. Time is stopped during a trial and recorded if: a) patient deviates from initial crossed arm position, b) patient opens eyes during an " eyes closed" trial condition, or c) patient moves feet (takes a step) or requires manual assistance to prevent loss of balance. A trial is successful if the patient is capable of maintaining the starting position independently for a period of 30 seconds. A maximum of three (3) trials are performed for all conditions. Trials are performed until the patient either: a) successfully maintains the starting position for an entire 30-second, or b) completes three, 30-second trials to the best of their ability. Scoring: This test allows for analysis of the patient’s voluntary postural control. It is used to evaluate how far patients are able and/or willing to lean away from a stable base of support in multiple directions. Equipment/set-up: YardstickStarting Position: Position a yardstick at the level of the patient’s acromion process. This may be achieved by affixing the yardstick to the wall. Participant stands with feet shoulder width apart and arm raised to 90 degrees (parallel to floor, palm facing medially. Protocol: The patient is instructed to reach as far forward as possible without letting

their feet raise off the floor or their hand touch the yardstick. Location of the middle finger (in inches) is recorded. Trial distance (in inches) is obtained by subtracting the end number from the starting position number. Perform one (1) practice trial to ensure patient understanding of instructions followed by 1 trial that is recorded. Repeat similar protocol for reach backwards, left and right.

Scoring:

Condition 1: forward reach distance• Distance (inches): ----------• Condition 2: backward reach distance• Distance (inches):----------• Condition 3: lateral reach (right)• Distance (inches):----------• Condition 4: lateral reach (left)• Distance (inches):----------TOTAL DISTANCE (INCHES):----------

4. 8. 3- Functional Strength Test

(a)L/E: Chair Stand Test

Equipment/set-up: Straight backed chair without arms (seat height approximately 17"). Chair is placed against wall or heavy object (plinth) to prevent it from moving during test. A stopwatch is also required. Starting Position: Patient sitting in middle of chair with back straight and feet on floor. Arms are crossed over chest. Test Protocol: The participant is instructed to rise to a full stand and return back to a full seated position after the signal " go" is given. They are encouraged to complete as many full stands as possible within a 30-second time limit. The examiner demonstrates the test for the patient and allows a practice trial of 1 to 2 repetitions to ensure correct form. One 30-second trial is performed and recorded. Scoring: The score is the total number of stands executed correctly within 30 seconds. If

the patient is more than half way up at the end of 30 seconds it is counted as a full stand. Results obtained with this test may be compared to age-related normative values listed in the Senior Fitness Test manual. Adaptations if Hand Use is Required: If the participant is unable to perform the task without use of hands during the practice trial, check " YES" for the " Use of hands required?" question on the assessment form. The test continues with the patient using the chair or their thighs to push off. If the participant uses their hands, their score can not be compared with age-related normative values published in the Senior Fitness Test manual.

Functional Strength Tests

a. L/E (Chair Stand Test):

• Use of hands required? __ YES __ NO• Number of repetitions completed in 30 seconds:

b. U/E: Arm Curl Test:

Equipment/set-up: Straight backed chair without arms (seat height approximately 17"). Dumbbells: 8 lbs for men and 5 lbs for women. A stopwatch is also required. Starting Position: Patient sitting in middle of chair with back straight and feet on floor. The weight is held in their dominant hand (use other side if dominant hand is impaired and unable to maintain grasp). The arm is positioned with the elbow in extension by the side of the patient’s torso, perpendicular with the floor. The wrist is initially positioned in neutral. Test Protocol: The participant is requested to turn palm upwards (supinate forearm) while curling the arm through full range of motion and then return to full extension. In the downward position, the hand should have

returned to the original starting position (wrist in neutral). The participant is encouraged to perform as many curls as possible within 30 seconds. The examiner demonstrates the test for the patient and allows a practice trial for 1 to 2 repetitions to ensure correct form. A 30-second trial is performed and recorded. Examiner positioning can be adjusted if the participant is unable to maintain their upper arm still against their body during the trial. If patient form is problematic, the therapist may either kneel or sit next to the patient (the side which they are holding the weight) and place their fingers on the anterior aspect of the participant’s upper arm to stabilize it from moving and ensure full range of motion is achieved (patient’s forearm should squeeze examiner’s fingers). Scoring: The score is the total number of curls executed correctly within 30 seconds. If the arm is more than half way up at the end of 30 seconds, it is counted as a curl. Results obtained with this test may be compared to age-related normative values listed in the Senior Fitness Test manual. Adaptations: If the patient is unable to hold the dumbbell due to a medical condition affecting the hand or wrist, a Velcro wrist weight may be used. If the patient is unable to perform one (1) repetition with the appropriate weight, a lighter one may be substituted (ensure you note the change on the assessment form). Remember, comparison with age-related normative values is only possible if the standard testing protocol is followed

Functional Strength Tests

b. U/E (Arm Curl Test):

• Arm used: __ Left __ Right• Weight: 5lbs (Female): __8lbs (Male): __• Number of repetitions completed in 30 seconds:

4. 8. 4-BERG BALANCE SCALE

ITEMDESCRIPTIONSCORE (0-4)1. Sitting to standing_____2. Standing unsupported_____3. Sitting unsupported_____4. Standing to sitting_____5. Transfers_____6. Standing with eyes closed_____7. Standing with feet together_____8. Reaching forward with outstretched arm_____9. Retrieving object from floor _____10. Turning to look behind_____11. Turning 360 degrees _____12. Placing alternate foot on stool_____13. Standing with one foot in front_____14. Standing on one foot _____

TOTAL_____

Equipment required for testing are a stopwatch or watch with a second hand, and a ruler or other indicator of 2, 5 and 10 inches (5, 12. 5 and 25 cm). Chairs used during testing should be of reasonable height. Either a step or a stool (of average step height) may be used for item #12. 1. SITTING TO STANDINGINSTRUCTIONS: Please stand up. Try not to use your hands for support.(4) Able to stand without using hands and stabilize independently(3) Able to stand independently using hands(2) Able to stand using hands after several tries(1) Needs minimal aid to stand or to stabilize(0) Needs moderate or maximal assist to stand2. STANDING UNSUPPORTEDINSTRUCTIONS: Please stand for two minutes without holding.(4) Able to stand safely 2 minutes(3) Able to stand 2 minutes with supervision(2) Able to stand 30 seconds unsupported(1) Needs several tries to stand 30 seconds unsupported(0) Unable to stand 30 seconds unassisted

If a subject is able to stand 2 minutes unsupported, score full points for sitting unsupported. Proceed to item #4.

3. SITTING WITH BACK UNSUPPORTED BUT FEET SUPPORTED ON FLOOR OR ON A STOOLINSTRUCTIONS: Please sit with arms folded for 2 minutes.(4) Able to sit safely and securely 2 minutes(3) Able to sit 2 minutes under supervision(2) Able to sit 30 seconds(1) Able to sit 10 seconds(0) Unable to sit without support 10 seconds4. STANDING TO SITTINGINSTRUCTIONS: Please sit down.(4) Sits safely with minimal use of hands(3) Controls descent by using hands(2) Uses back of legs against chair to control descent(1) Sits independently but has uncontrolled descent(0) Needs assistance to sit5. TRANSFERSINSTRUCTIONS: Arrange chairs(s) for a pivot transfer. Ask subject to transfer one way toward a seat with armrests and one way toward a seat without armrests. You may use two chairs (one with and one without armrests) or a bed and a chair.(4) Able to transfer safely with minor use of hands(3) Able to transfer safely definite need of hands(2) Able to transfer with verbal cueing and/or supervision(1) Needs one person to assist(0) Needs two people to assist or supervise to be safe6. STANDING UNSUPPORTED WITH EYES CLOSEDINSTRUCTIONS: Please close your eyes and stand still for 10 seconds.(4) Able to stand 10 seconds safely(3) Able to stand 10 seconds with supervision(2) Able to stand 3 seconds(1) Unable to keep eyes closed 3 seconds but stays steady(0) Needs help to keep from falling7. STANDING UNSUPPORTED WITH FEET TOGETHERINSTRUCTIONS: Place your feet together and stand without holding.(4) Able to place feet together independently and stand 1 minute safely(3)Able to place feet together independently and stand for 1 minute with supervision(2) Able to

place feet together independently and to hold for 30 seconds(1) Needs help to attain position but able to stand 15 seconds feet together(0) Needs help to attain position and unable to hold for 15 seconds8. REACHING FORWARD WITH OUTSTRETCHED ARM WHILE STANDINGINSTRUCTIONS: Lift arm to 90 degrees. Stretch out your fingers and reach forward as far as you can. (Examiner places a ruler at end of fingertips when arm is at 90 degrees. Fingers should not touch the ruler while reaching forward. The recorded measure is the distance forward that the finger reach while the subject is in the most forward lean position. When possible, ask subject to use both arms when reaching to avoid rotation of the trunk.)(4) Can reach forward confidently > 25 cm (10 inches)(3) Can reach forward > 12. 5 cm safely (5 inches)(2) Can reach forward > 5 cm safely (2 inches)(1) Reaches forward but needs supervision(0) Loses balance while trying/ requires external support9. PICK UP OBJECT FROM THE FLOOR FROM A STANDING POSITIONINSTRUCTIONS: Pick up the shoe/slipper which is placed in front of your feet.(4) Able to pick up slipper safely and easily(3) Able to pick up slipper but needs supervision(2) Unable to pick up but reaches 2-5cm (1-2 inches) from slipper and keeps balance independently(1) Unable to pick up and needs supervision while trying(0) Unable to try/needs assist to keep from losing balance or falling10. TURNING TO LOOK BEHIND OVER LEFT AND RIGHT SHOULDERS WHILE STANDINGINSTRUCTIONS: Turn to look directly behind you over toward left shoulder. Repeat to the right. Examiner may pick an object to look at directly behind the subject to encourage a better twist turn.(4) Looks behind from both sides and weight shifts well(3) Looks behind one side only other side shows less weight shift(2) Turns sideways only but

maintains balance(1) Needs supervision when turning(0) Needs assist to keep from losing balance or falling11. TURN 360 DEGREESINSTRUCTIONS: Turn completely around in a full circle. Pause. Then turn a full circle in the other direction.(4) Able to turn 360 degrees safely in 4 seconds or less(3) Able to turn 360 degrees safely one side only in 4 seconds or less(2) Able to turn 360 degrees safely but slowly(1) Needs close supervision or verbal cueing(0) Needs assistance while turning12. PLACING ALTERNATE FOOT ON STEP OR STOOL WHILE STANDING UNSUPPORTEDINSTRUCTIONS: Place each foot alternately on the step/stool. Continue until each foot has touched the step/stool four times.(4) Able to stand independently and safely and complete 8 steps in 20 seconds(3) Able to stand independently and complete 8 steps > 20 seconds(2) Able to complete 4 steps without aid with supervision(1) Able to complete > 2 steps needs minimal assist(0) Needs assistance to keep from falling/unable to try13. STANDING UNSUPPORTED ONE FOOT IN FRONTINSTRUCTIONS: (DEMONSTRATE TO SUBJECT)Place one foot directly in front of the other. If you feel that you cannot place your foot directly in front, try to step far enough ahead that the heel of your forward foot is ahead of the toes of the other foot. (To score 3 points, the length of the step should exceed the length of the other foot and the width of the stance should approximate the subject's normal stride width)(4) Able to place foot tandem independently and hold 30 seconds(3) Able to place foot ahead of other independently and hold 30 seconds(2) Able to take small step independently and hold 30 seconds(1) Needs help to step but can hold 15 seconds(0) Loses balance while stepping or standing14. STANDING ON ONE LEGINSTRUCTIONS: Stand on one leg as long as you can without holding.(4)

Able to lift leg independently and hold > 10 seconds(3) Able to lift leg independently and hold 5-10 seconds(2) Able to lift leg independently and hold = or > 3 seconds(1) Tries to lift leg unable to hold 3 seconds but remains standing independently(0) Unable to try or needs assist to prevent fall

TOTAL SCORE (Maximum = 56)

4. 9Data Collection Procedure

A detailed account of how the researcher will perform research; how s/he will measure the variable. It includes, identification of the study variables. we use performa.

4. 10 Data collection tools (Questionnaire/Performa)

A well designed and detailed Questionnaire/Pro-forma was used to collect the relevant information from the subjects

4. 11 Data Analysis Technique

The data was analyzed using the SPSS 13. 0 statistical software. Descriptive Statistics, including mean ± standard deviation (S. D.) and frequencies (count and percentage) was calculated for quantitative data. For qualitative data percentages and pie-charts was used. The statistical difference was assessed using Fishers Exact test and Wilcoxen signed rank test. The statistical significance was set at 5% level.

4. 12 Follow up

The subjects will treated for 6 weeks and balance, motor and sensory assessment was done after 6 weeks.

5. RESULTS

Summary of results

At the start of study 41 people were enrolled but with the passage of time 11 people could not continue the training due to some reasons, e. g. regular training sessions, their own dependence on other family members and the physical illness. Moreover a 78 years old man left the study due to his death. Hence at the end 30 old people were divided in to three groups each group contained 10 people. Group A was given motor, Group B was given Sensory and Group C was given combined Motor and Sensory trainings. The mean age of all 30 people was 71±7. 47 years with age range of 29 years of age i. e. 60-89 years. In group A, B and C the mean ages were 72. 10±5. 70 years, 72. 50±9. 66 years and 68. 40±6. 55 years. The mean age of people in each group was statistically same, i. e. p-value = 0. 247. (Table # 1)According to gender distribution, there were 22 (73. 3%) males and 8 females (26. 7%). In group A there were 6 males and 4 females, in group B there were 7 males and 3 females and in group C there were 9 males and 1 female. The gender variation in the study groups is due to the randomized allocation, but this gender difference in all study groups is not significant, i. e. p-value = 0. 303. (Graph # 1)In this study 29 (96. 7%) were married and 1 (3. 3%) was un-married. The unmarried 65 years old man was randomly allocated in group C. The marital status in all study groups was insignificant statistically, p-value = 0. 355. (Graph # 2)In this study 14 (46. 7%) people were smoker and 16 (53. 3%) were not smoker. The smoking status in all study groups were statistically same, i. e. p-value = 0. 392. (Graph # 3)There were 25 (83. 3%) people who had the previous history of fall while 5 people did not have

any previous history of fall. The previous history of fall was also statistically insignificant in all study groups, p-value = 0. 383. (Table # 2)In this study there were only two (6. 7%) people who had Osteoporosis while 28 (93. 3%) did not have any history of osteoporosis. The osteoporosis in this study was statistically insignificant, p-value = 0. 585. (Table # 3)In addition, confusion was reported by 20 (66. 7%) people and it was not seen in rest of the people 10(33. 3%). The frequency of confusion was statistically same in all the study groups, p-value = 0. 549. (Table # 4)The fear of fall was seen in 21 (70%) of the people and in 9(30%) of the people fear of fall was not observed. Statistically in all study groups the fear of fall was same, p-value = 0. 621. (Graph # 4)In group A, B and C, 5, 8 and 6 people had poor vision and hearing respectively, while 11(36. 7%) of the people had good vision and hearing. Statistically all study groups had similar frequency of poor vision and hearing, p-value = 0. 366. (Graph #5)In this study 23(76. 7%) people reported of dizziness while standing and 7(23. 3%) people reported no dizziness on standing. The proportion of dizziness in all study groups was statistically same, p-value = 0. 830 (Table #5)Osteoarthritis was seen in 21 (70%) of the patients and 9 (30%) patients did not have the arthritis, the frequency of arthritis was statistically same in all study groups. (Table # 6)There were 19(63. 3%) people who were stopped walking while talking while 11 people did not stop their walk to talk, the frequency of people who were used to stop walking to talk was statistically same among the study groups, p-value = 0. 563. (Table # 7)Nineteen people were used to rise with the help of chair arm or other furniture, while 11(36. 7%) could stand up or rise without any assistance. The frequency of people who could rise with the

assistance of others was same in all study groups, p-value = 0. 866. (Table # 8)There were 11(36. 7%) people who reported that they feel difficulty to transfer (i. e moving from one position to other e. g sitting to standing) , while 19 (63. 3%) people reported that they could transfer without difficulty. The frequency of transfer without difficulty was same in all study groups, p-value = 0. 866. (Table #9)There were 14(46. 7%) people who reported difficulty in walking while 16(53. 3%) could walk easily without any difficulty. The frequency of people who had difficulty in walking was statistically same in all study groups, p-value = 0. 079. (Table # 10)The history of recurrent fracture or hospitalization was seen in 9(30%) people and in 21(70%) people the history of fracture or hospitalization was not seen. The frequency of fracture or hospitalization was statistically same in all study groups i. e. p-value= 0. 621 (Table # 11)Ten (33. 3%) people did not have any body pain, 4 had very little, 7 had moderate, 5 had quite a better and 4 had severe pain. The body pain and its severity was statistically same in all the study groups, p-value = 0. 138. (Table #12)There were 15(50%) people who had other medical conditions while 50% did not have it. The medical condition in all study groups was statistically same, i. e. p-value = 0. 670. (Table # 13)According to the participants, the quality of life (QOL), 4 people reported very low, other 4 people reported low, 7 told it was moderate, in 9 people QOL was high and in 6 it was very high. The QOL was statistically same in all study groups, p-value= 0. 814. (Table #14)There were 50% people reported in performa that they do regular exercise while 50% did not have the regular exercise. In all study groups the status of regular exercise was statistically same, i. e. p-value = 0. 670. (Graph # 6)In group A the mean mCTSIB was

86. 80 ± 5. 61 and 93. 70 ± 8. 89 before and after training respectively. The effect of motor training was statistically significant for mean mCTSIB, p-value= 0. 038. In group B the mean mCTSIB was 90. 50±5. 54 and 104. 30±10. 53 before and after training respectively. The effect of sensory training was also statistically significant, i. e., p-value = 0. 005. In group C the mean mCTSIB was 87. 9±85. 5 and 106. 7 ± 10. 71 before and after training respectively. The effect of motor and sensory training combined was significantly higher on mCTSIB, i. e., p-value = 0. 001. The mean mCTSIB scores significantly increased in all study groups but in group C the mean mCTSIB score was highly significant. (Table #15)In group A the mean MDRT was 6±1. 6 and 5. 7 ±1. 5 before and after training respectively. The effect of motor training was statistically insignificant, p-value= 0. 279. In group B the mean MDRT was 5. 4±2. 5 and 6. 9±2. 47 before and after training respectively. The effect of sensory training was statistically significant, i. e., p-value = 0. 003. In group C the mean MDRT was 4. 70±2. 4 and 10. 8±2. 9 before and after training respectively. The effect of motor and sensory training combined was significantly higher on MDRT, i. e., p-value = 0. 000. (Table # 16)The mean FST in group A was 11. 9±2. 92 before training and after training it was 12. 6±3. 06. The effect of motor training was statistically insignificant on FST, p-value= 0. 89. In group B the mean FST was 11. 8±2. 94 before training and after training it was 12. 9 ±2. 81. The effect of sensory training was statistically insignificant on FST, i. e., p-value = 0. 24. In group C the mean FST was 10. 10±2. 92 and 16. 6±3. 34 before and after training respectively. The effect of motor and sensory training combined was significantly higher on FST, i. e., p-value = 0. 000. (Table # 17)The mean

Berg Balance Scale (BBS) in group A was 46. 7 ± 2. 3 before training and after training it was 48. 5 ±3. 47. The effect of motor training was statistically insignificant on BBS, p-value= 0. 074. In group B the mean BBS was 50. 40±2. 87 before training and after training it was 53. 9±2. 55. The effect of sensory training was statistically significant on BBS, i. e., p-value = 0. 003. In group C the mean BBS was 44. 3±3. 19 and 53. 5±3. 27 before and after training respectively. The effect of motor and sensory training combined was significantly higher on BBS, i. e., p-value = 0. 000. (Table # 18)

Table # 1

Age distribution with respect to Study groups

Study Groups

Total

A

B

C

N10101030Mean72. 1072. 5068. 4071. 00Std. Deviation5. 709. 666. 557. 47Std. Error1. 803. 052. 071. 36Minimum62616060Maximum79897989Range17281929

p-value = 0. 415

Key Words:

Group A: Motor TrainingGroup B: Sensory TrainingGroup C: Motor and Sensory Training

Graph # 1

Gender distribution of people in study groups

The prevalence of falls was within the reported range of most epidemiologic studies from developed countries. In the context of falls in developing countries, a cross-sectional study from China reported 18% prevalence of falls among elderly over 70 years old. 145 In developing countries such as Pakistan, the elderly are often under the care of their children and mostly play a passive role in the general population. They usually do not work and spend most of their times inside their homes. 146 This may explain why the effect of age may be smaller in developing countries compared to developed countries with regards to prevalence of falls. Although elderly living alone seemed to suffer higher fall rates, our data revealed that living together with another family member or with someone else in general, to be a very important protective factor against falls. The reason behind the difference in the correlation of falls among two sexes remains obscure. 146 The present study reveals the average age 71±7. 47 years with age range of 29 years, 60-89 years. One case control study identified male patients as being more likely to fall147 but this has been contraindicated by another case control study from a developed nation. 148 The Chinese study revealed higher rates of falls among elderly men 146 which is a contradiction to the present study. In Pakistan, women continue to play an active role in daily activities, such as housekeeping, shopping or caring for their grandchildren with some limitation of huge activities; while on the other hand, after retirement elderly males tend to have more sedentary life styles. For example a typical day passes either with resting at home and performing religious duties or

meeting with their friends. This may help explain why men are more prone to falls in developing countries. Talking about the other risk factors, depression was found to be associated with an increased risk of falling, similar to the previous studies. 149-151 Depression is associated with postural and motor abnormalities secondary to psychomotor retardation 152 and these abnormalities may be the probable link between depression and falls in elderly subjects. Moreover, use of antidepressants itself may contribute to the risk for falls. 149In a review of 16 fall risk studies, presence of arthritis was identified as having a higher mean relative risk of predicting future falls than age or cognitive status; however, few studies have identified the type, location and related impairments and disabilities that might increase the risk of falls in this population. 153 As well, there are no studies describing incidence of falls, near falls, or the type and circumstances of falls in individuals with lower extremity arthritis. Lower limb weakness, slower gait, decreased mobility and pain, all outcomes of hip OA, are also established risk factors for falls. 154-156 There is some evidence of increased fall risk in older adults with hip and knee arthritis. 157 However, others found decreased fall risk for women with more severe radiographic changes of hip OA, but an increased risk for those with self-reported OA. 158 This apparent paradox suggests that that those with more severe disease, due to more limited functional ability, may not put themselves at as great a risk compared to those with milder OA. Results from another study, showing patients with new episodes of hip pain had increased occurrence of falls, supports the notion of increased fall risk for those with milder or early signs of hip OA. 159 In this study the body pain was reported by 20 (67. 7%) of the

people while the 10(33. 3%) people did not have any associated pain. OA is one of the leading causes of disability in the elderly and by 2020 it is projected that the number of persons with arthritis will increase by 57% due to the expected increased number of older adults. 160 These descriptive data are important in order to develop intervention strategies to reduce fall risk and fall incidence in a population that may be at higher risk than the healthy community dwelling elderly. 160 In our study the OA was seen 21(70%) of the people, which is comparatively higher as reported in the literature. Falls among the elderly represent a major economic and social problem. 162-164 Falls themselves and the belief that one might fall in fall-risk situations can result in restriction of mobility and activity, feelings of helplessness, loss of confidence, depression, and institutionalization. 163 There is now good evidence that multi-factorial interventions conducted by health professionals with skills in geriatric medicine can prevent falls. 164, 165 Multifaceted interventions have generally been consistent in showing an effect, particularly if they are targeting persons at risk and include several intervention approaches. 165The systematic review provides strong evidence that exercise programs can reduce fall rates in older people. The overall reduction of 17% based on 44 trials involving 9, 603 participants provides confidence that these findings are robust and generalize able to a broad section of older people. Furthermore, the meta-regression analysis model revealed that three factors (balance training, exercise dose, and the absence of a walking program) are associated with the efficacy of exercise programs. The inclusion of balance training in exercise programs appears to be important. This finding is consistent with the Frailty and Injuries:

Cooperative Studies of Intervention Techniques prospective meta-analysis of individual participant data from eight trials, which found a pooled estimate of a 17% lower falls risk from exercise programs that included balance training but not from other forms of exercise. 166 Inclusion of balance training may help to explain why several intervention strategies that appear to be different are similarly effective in substantially reducing fall rates. 156Studies of behaviorally oriented educational interventions using group processes have had limited success in reducing falls. 167, 168 One of the educational program trials to reduce falls demonstrated a significant trend (16% fewer reported falls), but overall, this trial was not sufficiently effective to be clinically useful. There is support that, for an important reduction in falls risk, an intervention needs to demonstrate at least a 30% reduction. 167In addition, the evidence base for falls prevention has only been established over the previous 10 years, so the role of educational programs in falls prevention warrants reexamination. 168 Clemson L et all 2004 study of the effectiveness of Stepping On, a small-group based educational program, is reported to see whether it was effective in reducing falls in at-risk people living at home. 169 So, they concluded that the an attention to the idea that cognitive-behavioral learning in a small group environment can reduce falls. Stepping On offers a successful fall-prevention option. 169According to two reviews, multi-factorial interventions are shown to be beneficial in unselected older populations and in older people with a history of falling. Single factorial interventions, for example, exercise programs combining muscle strengthening and balance retraining, home safety assessment and modification programs, and drug withdrawal programs that

increase fall risk, have also reduced the incidence of falls in community-dwelling elderly people. 170, 171So, Salminen MJ conducted a study having a purpose whether a 12- month risk-based multifactorial fall prevention program consisting of a geriatric assessment, counseling, and guidance in fall prevention; home hazards assessment and modification; group physic physical exercise; home exercise; lectures in groups; and psychosocial groups reduced the incidence of falls in community-dwelling elderly people. 172 So they concluded that the program was not effective in reducing falls in the total sample of community-dwelling subjects with a history of falling, but the incidence of falls decreased in participants with a higher number of depressive symptoms and in those with at least three falls. 172According to Hauer K et all, Progressive resistance training and progressive functional training are safe and effective methods of increasing strength and functional performance and reducing fall-related behavioral and emotional restrictions during ambulant rehabilitation in frail, high-risk geriatric patients with a history of injurious falls. 173Hence, in this study the motor training did not give any significant results as compared to the sensory training and the combined training. The combined training was significantly effective on Modified Clinical test of sensory integration on balance, multi directional reach test, functional strength test and berg balance scale score.

7. CONCLUSION

According to the results of this study it is concluded that combined effect of motor and sensory training has significant role in the prevention of fall in geriatrics. So such trainings must be adopted for the prevention of fall in

geriatrics. Moreover we can prevent all the threats, injuries and sever morbidities of fall in geriatrics by giving the combination of motor training and sensory trainings.