SURVEY ON CONFIDENCE OF ACTIVITY SPECIFIC BALANCE AMONG INDIVIDUALS IN THE AGE RANGE OF 41 TO 50 YEARS

*Dr. Hardeep Kaur Saini (Assistant Professor)

Govt. College of Education, Patiala

ABSTRACT

Balance is an important aspect of activity for the human body to strive for and maintain a normal life. It refers to the even distribution of weight, enabling someone or something to remain steady. Since all the parts of the body are connected, any imbalance causes impact on the body. One can practice training and movement patterns to enhance balance. This study was conducted to survey confidence of activity specific balance among individuals. The subjects were selected randomly. The study covered 136 free-living community dwellers whose age ranged from 41 to 50 years. To determine Activity-Specific Balance Confidence (ABC) 11-point scale was used. For analysis of the data collected from Activity-Specific balance Confidence Scale, Mean and Standard Deviation was computed. For this purpose 't-test' was applied , level of significance was set at 0.05% to test the hypothesis.

Key Words: Balance, Fitness, Exercise, Activity-specific Balance Confidence.

INTRODUCTION

Balance is an important aspect of activity for the human body to strive for and maintain a normal life. It refers to the even distribution of weight, enabling someone or something to remain steady. The functional movements require all parts to work in sync, simultaneously and cohesively. Since all parts of the body are connected, any imbalance causes impact on the body. In case of any imbalance among the body parts, movement will not be smooth. Multiply all imbalance over days, months and years and it becomes easier to see where it all culminates-chronic tightness, stress, discomfort, aches, pain and wear and tear of joints, muscles and connecting tissues. We all have an instinctive preference or bias to use one side of our body over the other (R v/s L) to perform daily activity (pushing, pulling, lifting, twisting and more) without realizing it. This leads to overuse/underuse causing imbalance of muscles and joints. Many even stand without centering and evenly distributing body weight on the feet (hip/pelvic tilt to one side or hip thrust forward or back). This unconscious preference and its postural ramification creates imbalance. Many people remain sedentary for most part of their lives,

leaving muscles unengaged and weakened. Consequently, their ability to support and power movement erodes, compounding imbalance. Another common factor is a weak core. Strength, agility and flexibility in the body gets further skewed. Fluidity of movement is compromised, it increases propensity to falls and injury. Combined with the natural ageing process, these dangers get exacerbated. So balance training for older adults is even more important to avoid falls.

Human body has a balance system which is a complex system of organs as well as mechanisms, which may generate postural reaction so as to counter the displacement from the balanced position of the body's gravitational centre. Balance is the ability of the body to maintain the line of body's gravitational line within the base of support with minimal postural stability. Postural stability is the horizontal movement of the gravitational centre even when a person is in a stationary position. A certain amount of sway is necessary and inevitable due to even a small disturbance in the body. Tiredness can negatively affect the muscles around the knees, hips and ankles . It may decrease the ability of a person to contract the muscles with the correct amount of force or accuracy. Staying active is a great lifestyle choice. Nurturing body awareness (recognizing and spotting individual imbalance and posture deviations), incorporating active balance building and practicing corrective movements are essential. Yoga and Pilates may add to these benefits. Training and movement patterns lead to enhancement of body balance. One can choose exercises and movement options that involve and challenge balancing in various combinations- both legs, single leg, static (stationary) poses and dynamic movements in different directions. One must strengthen core muscles and practice engaging them for all movements. Focus on deep breathing patterns while exercising to build focus. It affects the body balance in a positive manner

METHODS AND MATERIALS

The subjects were selected randomly for the present study. The study covered 136 free-living community dwellers whose age ranged from 41 to 50 years. The mean$\pm$ SD of 89 females and 47 males are 46.11 ± 3.55 and 45.85 ± 3.08 years respectively. The mean $\pm$ SD of 81 working and 55 non-working individuals came out to be 45.31 ± 2.88 and 46.35 ± 3.37 years respectively. To determine Activity-Specific Balance Confidence (ABC) 11-point scale was used for the present study.

The subjects were instructed to indicate their level of confidence while doing the activity without losing balance or getting unsteady choosing from range on the scale 0% to 100%. In case they don't carry on the activity in question presently, they were asked to imagine the level of confidence they would have experienced while doing that activity. The subjects were also instructed if they used a walking aid to do the activity or in case they have confusion about any question, they can ask the researcher about it without hesitation .

The questionnaire has 11-point scale and rating ranges from 0-100 (whole numbers only) i.e. from no confidence to completely confident respectively. Total the ratios (possible range =0-1600) and divide by 16 to get each subject's ABC score. If a subject qualifies his/her response to items #2, #9, #11, #14 or #15 (different rating for 'up' v/s 'down' or 'onto' v/s 'off') solicit separate rating and use the lowest confidence of the two (as this will limit the entire activity, for instance the likelihood of using the stairs.)

STATISTICAL ANALYSIS

For analysis of the data collected from Activity-Specific balance Confidence Scale, Mean and Standard Deviation were computed. For this purpose, 't-test' was applied and for testing the hypotheses, the level of significance was set at 0.05%.

RESULTS AND DISCUSSION

The results were computed and the following tables and figures depict the same :

Table -1

Analysis of Activity-Specific Balance Confidence Between Males and Females

Activity-Specific Balance Confidence	Mean	SD	t-value
Males	76.15	2.94	
Females	68.23	2.45	2.34*

*Tabulated 't' at 0.05 level=1.98

Table 1 depicts the calculated value of 't' as found to be 2.34 which is greater than the table value of 't' as 1.98 at 0.05 level of significance with df =134. Hence there exists significant difference in Activity-Specific Balance Confidence between males and females.
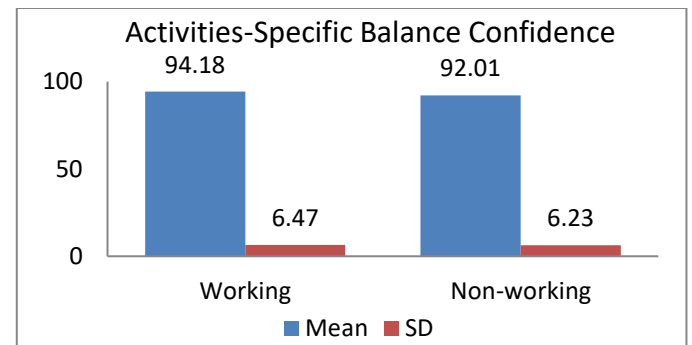

Fig: 1

Difference in Mean and SD of Activity-Specific Balance Confidence between males and females

Figure 1 reveals that there is significant difference between Mean of males and females of activity specific balance confidence, because mean of males is 76.15 is more than mean of females 68.23, and their mean difference is 7.92. To find out the significant difference between males and females of Activity Specific Balance Confidence, the data was again analyzed by applying 't' test. Before applying 't' test, Standard Deviation was calculated between males which was 2.94 and for females, it was 2.45. There was a significant difference between males and females of Activity- Specific Balance Confidence because value of calculated 't'= 2.34 which is more than tabulated 't'= 1.98 at 0.05 level of confidence.

Thus the hypothesis, "There will be no significant difference of Activity-Specific Balance Confidence between working and non-working" is rejected.

Table -2

Analysis of Activity-Specific Balance Confidence Between Working and Non-Working Individuals

Activity-Specific Balance Confidence	Mean	SD	t-value
Working	94.18	6.47	1.03*
Non-Working	92.01	6.23	

*Tabulated 't' at 0.05 level =1.98

Table 2 depicts the calculated value of 't' as found to be 1.03 which is lower than the table value of 't' as 1.98 at 0.05 level of significance with df =134. Hence there exists no significant difference in Activity-Specific Balance Confidence between working and non-working individuals.
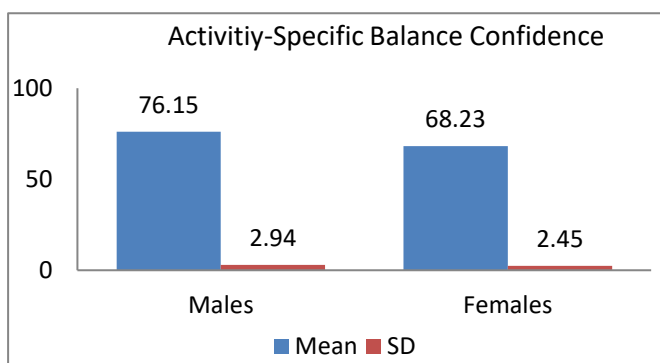

Fig:2

Difference between Mean and SD of Activity-Specific Balance Confidence between Working and Non-Working Individuals

Figure 2 reveals that there is no significant difference between Mean of working and non-

working of activity specific balance confidence, because mean of working is 94.18 is more than mean of non-working 92.01, and there mean difference is 2.17. to find out the significant difference between working and non-working of Activity Specific Balance Confidence, the data was again analyzed by applies 't' test. Before applying 't' test, Standard Deviation was calculated between working which was 6.47 and for non-working, it was 6.23. There was no significant difference between working and non-working of Activity-Specific Balance Confidence because value of calculated 't'= 1.03 which is less than tabulated 't'= 1.98 at 0.05 level of confidence.

Thus the hypothesis, "There will be no significant difference of Activity-Specific Balance Confidence between working and non-working" is accepted.

CONCLUSION

Equilibrium can be negatively affected through tiredness in the muscles around the knees, hips and ankles. Muscle tiredness may lead to decrease in the ability to contract with the correct amount of force. Staying active is a great lifestyle choice. Alongside, nurturing body awareness, incorporating active balance building and practicing corrective movements are essential.

REFERENCES

Christiansen, H. C. & Matuska , K.(2006). Lifestyle Balance: A Review of Concepts and Research, *Journal of Occupational Science.* 13(1).

Davidson & Nussbaum, M. (2004). Effects of Lumbar Extensor Fatigue Rate on Postural Sway, *European Journal of Applied Physiology.* 93(92),183-189.

Gribble, H. (2004). Effect of Lower-Extremity Fatigue on Postural Control, *Archives of Physical Medicine and Rehabilitation.* 85(4), 589-592.

Hassan, H., Zarrinkoob, H., Jafarzadeh, S. & Akbarzade, B. A. (2015). Psychometric Evaluation of Persian Version of Activity-Specific Balance Confidence scale for elderly Persians. *Auditory and Vestibular Research.* 24(2):54-63.

Marques, A. P., Mendes, Y. C., Taddei, U., Pereira, C. A., & Assumpção, A. B. (2013). Portuguese Translation and Cross Cultural Adaptation of the Activity-Specific Balance Confidence (ABC) scale. *Braz J Phys Ther.* 17(2):170-178.

Mak, M. K ., Lau, A. L., Law, F.S. & Cheung, C. C., Wong, I. S. (2007). Validation of the Chinese Translated Activity-Specific Balance Confidence Scale. *Arch Phys Med Rehabil*. 88(4):496-503.

Montilla-Ibáñez, A., Martinez-Amat, A., & Lomas-Vega, R. (2017). The Activity-Specific Balance Confidence Scale: Reliability and Validity in Spanish Patients with Vestibular Disorders. *Disability Rehabilitation* . 39(7):697-703.

Myers, A. M., Fletcher, P.C., & Myers, A. H.(1998). Sherk W. Discriminative and Evaluative Properties of the Activity-Specific Balance Confidence (ABC) Scale. *Journal of Gerontol Medical Science.* 53A:M287-294.

Olchowik, G.,et al (2015). *The Human Balance System and Gender.* 17(1):69-74.

Pahwa,V. B. (2019). A Guide to Achieving the Right Body Balance. *Body in Motion Fitness.*

Powell, L. E., & Myers, A. M. (1995). The Activity-Specific Balance Confidence (ABC) Scale. *Journal of Gerontol A Biol Sci Med Sci.* 50A (1):M28-34.

Raad, J., Moore, J., Hamby, J., Lainez, R. R. & Straube, D. (2013). A Brief Review of the Activity-Specific Balance Confidence Scale in Older Adults. *Arch Phys Med Rehabil.* 94(7):1426-1427.

Schott, N. (2008). German Adaptation of the "Activity-Specific Balance Confidence (ABC) Scale" for the Assessment of Falls-Related Self-Efficacy. *Z Gerontol Geriatr.* 41(6):475-485.

URLs

http://www.hrpub.org.