ABSTRACT

Purpose: To evaluate current concurrent resistance and endurance training literature as a potential method for physical activity promotion in healthy older adults. Methods: Literature was obtained by electronic searches of the EBSCO and PubMed databases using specific keywords including: resistance training, endurance training, concurrent exercise, concurrent training, combination (combo) training, healthy adults, older adults, and physical activity. Also, the bibliographies of the literature found through the previously mentioned electronic databases were canvassed for relevant articles to the study. Results were further filtered to include only material from 1999 to present day. Results: Of the 23 articles surveyed, the majority of them support concurrent resistance and endurance exercise as a method to improve fitness as well as decreasing resting heart rate and blood pressure, decreasing fall risk, increasing mobility, and increasing strength. The major negative seen throughout the literature was that the level of physiological response normally seen in separate resistance and endurance exercise programs was decreased when concurrent resistance and endurance training was employed. Conclusion: Concurrent resistance and endurance training is an effective method for enhancing overall fitness as well as improving quality of life. By utilizing functional movement training as the resistance program, the time required to perform a workout can be significantly reduced and more apt to be fit into elderly individual’s schedule.

INTRODUCTION

In a world where terms such as "obesity" and "overweight" are part of everyday conversations – the need for physical activity grows daily. Not everyone can be physically active though, perhaps due to disease, illness, disability, but also perhaps because they just plain "don’t want to." The revolution of the medical community prescribing exercise as a daily need is here, and some are on board.

While more and more are becoming active, some hide behind the false pretense that they “don’t have the time” or say that they “don’t know what to do” – and certainly there are those to whom these statements apply, but they are few and far between. With the advent of personal trainers and the internet (good, bad, or indifferent), not knowing what to do isn’t an acceptable excuse anymore and there have been numerous initiatives taken to allow people to make the time.

One such promotion is the use of concurrent endurance and resistance training – widely interpreted to be any one of many programs such as circuit-style training (alternating a cardio activity and a lifting activity over and over within a short amount of time) or simply alternating training programs on differing days (Monday – endurance, Tuesday – resistance, Wednesday – endurance, etc.).

For the purposes of this abstract, we define concurrent training as a cardiovascular session and a resistance training session within the span of an hour – although the amount of time spent on each is individual specific.

METHODS

Electronic searches were completed using EBSCO, PubMed, MEDLINE, and SPORTDiscus databases with specific keywords including:

- Resistance training
- Endurance training
- Concurrent exercise
- Concurrent training
- Combination (combo) training
- Healthy adults
- Older adults
- Physical activity

RESULTS

Of the 23 articles published since 1999, the majority support concurrent resistance and endurance exercise as a method for healthy older adults to:

- ↑ fitness
- ↑ quality of life
- ↑ mobility
- ↑ strength
- ↓ resting heart rate
- ↓ blood pressure
- ↓ fall risk
- ↓ risk of disease or illness

DISCUSSION AND CONCLUSION

In part to the variability in interpretation of the definition of concurrent training throughout the current literature, all cite the need for physical activity in one form or another. For our definition of concurrent exercise, many articles support that it is effective for improving overall fitness in the average healthy older adult.

However, some articles recognize that concurrent training is not always the preferred means for training. Specifically, there are benefits of cardiovascular exercise which inhibit the development and benefits of resistance training and vice versa, which for most is not an issue. Those training for a specific purpose such as running a marathon or participating in a strength competition may need to be cautious using concurrent training due to the possible resulting inhibitions.

Outside of formal endurance or resistance training, simple additions to everyday life may also serve to help increase overall fitness and well-being. These include:

- Parking further away from the entrances/doors
- Walking or bike riding to local places instead of driving
- Using the stairs instead of the elevator or escalator

FUTURE RESEARCH

The population of older adults with some form of chronic disease, illness, or defect is also growing – and the evaluation of the use of concurrent training may be a valuable tool with regards to rehabilitation, such as following a myocardial infarction. A longitudinal study may be beneficial in identifying trends in improving life expectancy as a result of an increase in physical activity.

Also, there opens the door for research into the effectiveness of concurrent training to the average adult with the job demands which primarily feature sedentary or semi-sedentary work. An example which initiated this research was academic professionals such as faculty and staff who have no other choice but to be indentured to a desk and “too busy to workout.” The use of concurrent training may be perfect because it does not require 5 days per week (it can, but does not have to).