Aerobic Dance Circuit Training as a Panacea for the Maintenance of Athletes' Fitness during Covid-19 Pandemic

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Abstract

Aerobic dance circuit training is an efficient, challenging series of conditioning workout that develop strength, endurance, flexibility, coordination and aerobic endurance. It is a new developed fitness training that has shown to effectively develop strength and cardiovascular fitness exercise session. Aerobic dance exercise has been used in circuit manner which can be adopted by sport and fitness specialist for the maintenance of social/physical distancing during this pandemic. A typical ADCT workout fulfills the cardiorespiratory and body composition training principles (Frequency, Intensity, Time, and Type of activity). Using ADCT as training programme improves cardiorespiratory variables such as systolic/diastolic blood pressure, Mean arterial blood pressure, also increases reserve heart rate, vital capacity, inspiratory reserved volume, peak expiratory flow rate and maximal oxygen consumption. It therefore recommended that future investigations could include the effects of ADCT on post pandemic.

Keywords*:* Aerobic, Dance, Covid-19, Pandemics, Social distancing**.**

Introduction

The successful performance of any sport depends on athlete's oxygen capacity which is a strong and mysterious science in sport medicine, but studies were attributable to more than 100 years ago when Kenneth Copper in 1960 describe it as determination of sport performance, and further describe activities performed in aerobic working condition. Zaletel, Garbilo and Peric (2013) described according to Cooper 1960 whereby he found out that aerobic exercise improves cardiorespiratory status of US Air Force. The principle of aerobic dance have proved to be effective in the sport training, therapeutic treatment and rehabilitative of various human ailment.

Coronavirus disease known as Covid-19 has been known as infectious

disease caused by a new virus that emerged in late 2019 in Wuhan, Hubei Province, China (WHO, 2019). As at this moment, there is an increase in the number of people infected and people dead. It was reported by WHO (2019) that COVID-19 is a public health emergency of international interest, and recently in 2020 classified it as a pandemic.

According to Neto, Tavares, Schuch and Lima (2020) the pandemic occurs in three stages of imported cases, local transmission and sustained community transmission. WHO (2020) adopted several health measures includes; social isolation, surveillance of cases coming from epidemic areas, and increasing public awareness to infection control in health facilities to reduce the spread. Gymnasium and sport facilities are among the health facilities that are very crowded and that can be a space of virus transmission. Therefore, in an attempt to reduce the scenarios of virus transmission Ministry of Health, Brazil (2020) announced guidelines to avoid the spread of the coronavirus, such as choosing to exercise outdoors instead of taking gymnastics classes in enclosed spaces.

Social distancing, also called physical distancing means keeping a safe space between each other. To practice this, sport participants should stay at least 6feet (about 2 arm's length) from other sport performer outdoor spaces. Researchers in sport science have been shown their solidarity with efforts to reduce the spread of the virus and keeping athletes in fitness shape for sport performance. Also, to devise innovative solution by identifying ways that sporting programmes can respond to problems faced by athletes. During this lockdown and recover from COVID-19 there will be significant issues to be addressed to create an avenue for fitness training particularly for young athletes.

Aerobic dance is a physical exercise that is usually performed to the rhythm of music and may be practiced in a group setting, led by an instructor (fitness professional).Circuit trainingis a series of exercises done in order of stations and at a fast pace with only a short break period between exercises and a bit longer rest between stations (Kumar, 2013). The combination of these two training methods is termed aerobic dance circuit training (ADCT). It is a form of physical exercise that combines rhythmic aerobic exercise to pre-set music with stretching and strength training routine in a circuit manner (circuit training). During this lockdown in other to adhere to social distance, ADCT can be used as a training programme for the maintenance of athlete's fitness capacity. Keep distance at events is safest to avoid over crowded, but ADCT is a training

programme that can be adopted due that sport participants at each station can stay 6 feet away from each other to create social distancing.

Therefore, the purpose of this review article is to provide the knowledge and administration of ADCT during sport programme for the maintenance of athlete's fitness level when applying social distance policy of COVID-19.

Concept of ADCT

According to Moore (2010) aerobic dance exercise is distinct in the sense that the rhythmic aerobic exercise with strength training and stretching procedures with the aim of developing all features of fitness (flexibility, body composition, muscular strength, and cardiorespiratory fitness). Moore (2010) categorized aerobic dance into low–impact, high–impact, water dance aerobics and step aerobics dance exercises. High impact exercises, owing to its name, involves monotonous intensive workout which include, jumping actions harmonized with designed music. Step aerobic dance uses step bench, and the water aerobic dance is carried out in waist – deep water, usually in a swimming pool

It is a type of aerobic training aimed in improving the body structure and cardiorespiratory fitness of the exercisers. Accordingly, the muscular strength, speed, flexibility, power and endurance could be developed through aerobic training. It involves the use of a number of exercise stations where the participants perform a given exercise within specific time. Circuit training can be programmed into a combination of resistance training and moderate to high-intensity aerobics designed in an easy way to follow and target fat loss, muscle building and heart fitness. Traditionally, the interval between exercises in circuit training is little, often with rapid movement to the next exercise and the circuit is completed, once the subject performs the exercise at all designated stations.

Thus, ADCT in this study is a training programme that consists of series of aerobic dance exercises performed to improve cardiorespiratory variables and to reduce fat. The ADCT can usually be completed easily by participants of all ages and fitness level. This is one of the unique characteristics of ADCT, in that the same step can be modified by the participants to meet the needs of her individual workout. A typical ADCT workout fulfills the cardiorespiratory and body composition training principles (Frequency, Intensity, Time, and Type of activity). It can be performed at a safe level of moderate intensity between 40% and 70% of age predicted MaxHR. It is similar to any cardiorespiratory workout classes which begin with a warm up of light activity and

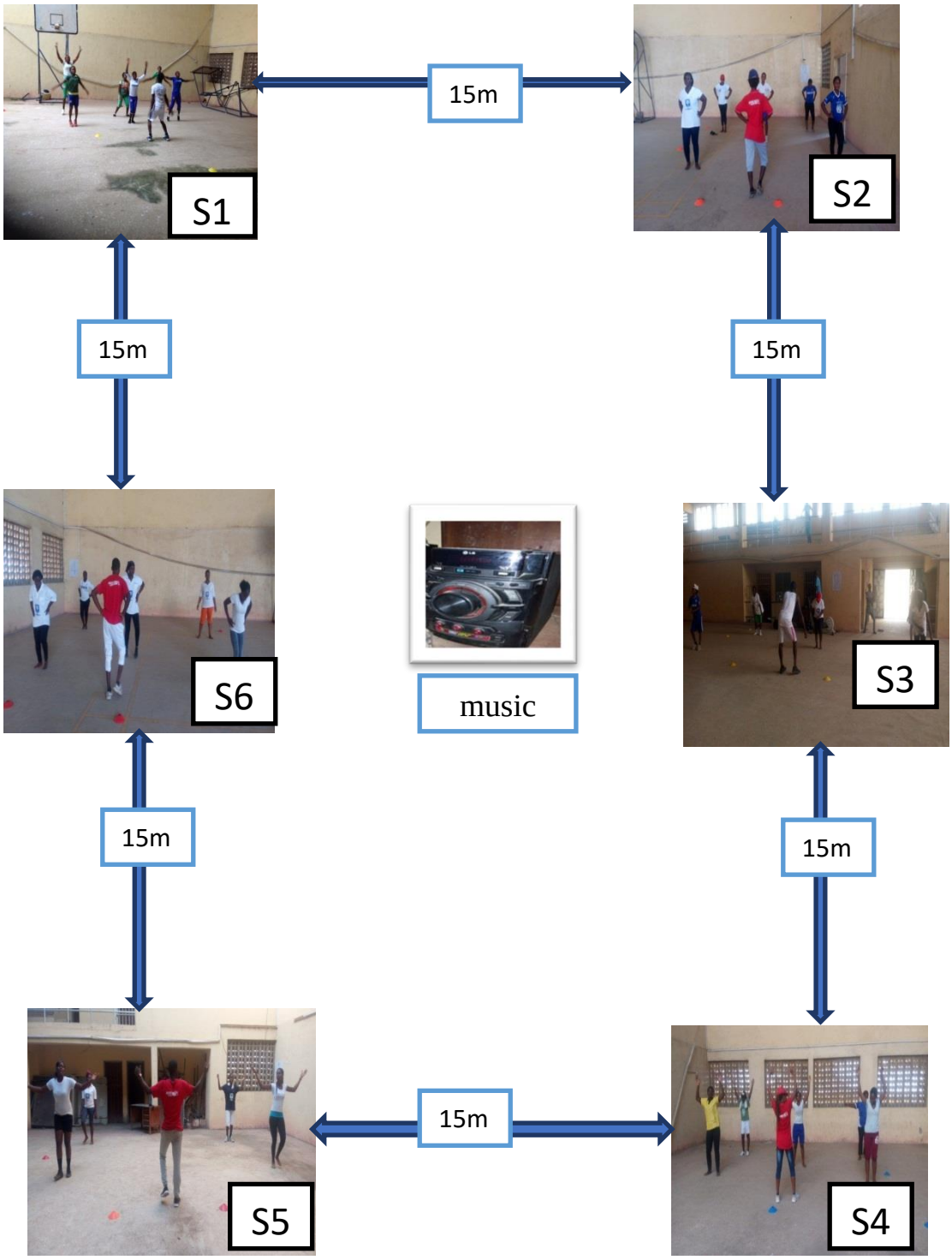
stretching exercise for 10 minutes, progress to the 20-30 minutes workout phase and then have a gradual cool down period for 10 minutes.

Benefits of Aerobic Dance Circuit Training

1. It reduces body composition percent body fat.
2. It improves cardiorespiratory variables such as systolic/diastolic blood pressure, Mean arterial blood pressure, also increases reserve heart rate, vital capacity, inspiratory reserved volume, peak expiratory flow rate and maximal oxygen consumption.
3. Helps regulate insulin levels and lower blood sugar
4. Reduces asthma symptoms
5. Reduces chronic back pain and reduce body weight
6. Strengthens immune system
7. Boosts mood
8. Safe for most people, including kids
9. Affordable and accessible

Aerobic Dance Circuit Training Description

ADCT is an excellent fitness activity that can get sport participant moving. It consisted of series of exercises inter spaced and performed at each station of 15meters between with minimal 60 seconds rest in between. The participants were distributed to six stations. The instructors lead the exercise at each station. The body movements are simplified and made easy to involve the use of both upper and lower extremities and the back and the principle of exercise warm-up and cool down; and 30-60 minutes of aerobic dance with brief rest periods to move from one station to the next station. The choreography exercise consisted of arm, leg, waist-hip and progressive step-aerobic movements; performed with music. According to ACSM (2010) exercises performed at a safe level of moderate intensity as 60% and 80% of age predicted MaxHR. Aerobic dance circuit training programme can be performed by all participants for the period of times based on the training scheduled.



Keys:
S1: Jumping jacks
S2: Marching on the spot
S3: Waist twitch
S4: Trunk swings
S5: Arm swing leg asides
S6: Lateral legs aside bend

Figure 1: ADCT Training programme Source: Ajayi (2019)

Directions

ADCT is an enjoyable and energetic way to get fit.

1. Use a space of 100meters by 90 meters and maintain 15meters each between stations.
2. Choose some music that has a good clear beat and is rhythmic. The music should last from 10 to 60 minutes or more. Put it in a sequence as regards beat per minute and tempo
3. Distribute athletes 6 or 10 into each station demarcated with cones and appoint aerobic dance instructors at each station to lead the exercise.
4. Inform the instructors to demonstrate aerobic exercise
5. Play the music and signal for warm-up at least for 5minutes
6. Start the main training programme for at least 60 seconds and brief rest periods to move from one station to the next station.
7. A training session is completed when the whole group has move round the stipulated stations.
8. Follow the principle of cool-down activity.

Conclusion and recommendation

In conclusion, regular aerobic dance circuit training of moderate and vigorous intensity is believed to exert beneficial effects on maintenance of physical fitness of athletes during COVID-19 pandemics as regards social or physical distancing and must be associated to the suggestions. The researcher sought to clarify the concept and importance of ADCT as a benefit of social or physical distancing. It therefore recommended that future investigations could include the effects of ADCT on post pandemic.

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