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Utilization of Public Open Space Area Facilities as an Alternative to Aerobic Dance Exercise

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Abstract

Sports in public open space areas are an option for now. This research aims to analyze the use of public open space areas as an alternative place for aerobic dance exercise in the city of Makassar, South Sulawesi. This study uses a questionnaire given to active sports players in public open spaces areas facilities. The study participants totaled 138 respondents aged 13-55 years. The questionnaires were distributed in five public places: Car Free Day Boulevard, Pakui Sayang Park, Macan Park, Karebosi Field, and Central Point Indonesia. This research was conducted for 3 weeks. The data obtained were analyzed by percentage. The majority of respondents used public open spaces area in Karebosi Field as many as 47 respondents or 29%, and the majority of respondents were teenagers, with 117 respondents, or 85%, jogging was still a popular sport, with 84 respondents, or 61%, while aerobics dance is second ranks 24 respondents or 17%, 66 respondents or 48% exercise 3-4 times a week, 41-60 minutes per exercise 44 respondents or 32%. Here it is known that sports carried out in public open space areas are good sports alternative places and are in great demand by residents of the city of Makassar, South Sulawesi.

How to Cite

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INTRODUCTION

Sport has become an increasingly urgent need related to fitness and recreation levels and has become a way of life for active people. That is why more and more people are actively involved in sports. Public sports infrastructure is essential to building a prosperous society as a whole (Li & Zhang, 2021). Public open space area is one of the prerequisites for forming community behavior, developing a culture, or getting used to sports (Indricha, 2019). The creation of a responsive public open space area means that the public space must be usable, has a function, and can be used for different purposes (Nuruddin et al., 2022). Public open space area facilities are the basis of urban community sports facilities. The number, quality, and distribution of public facilities have a significant influence on the enthusiasm and efficiency of sports activities and can also affect the living conditions and quality of life of the people.

In Indonesia, this is stated in Presidential Regulation Number 86 of 2021 on a comprehensive plan for national sports as contained in the Grand Design of National Sports (Desain Besar Olahraga Nasional which is abbreviated with DBON). DBON is a master plan document that provides policy guidelines for fostering and developing national sports that are implemented in an effective, efficient, superior, measurable, systematic, responsible, and sustainable manner in the fields of physical education, recreational sports, competitive sports, and the sports industry which was launched on 9 September 2021. It is hoped that in 2045, everyone can be active and create a healthy society. DBON does not only cover competitive sports. It also regulates the planning of joint recreational sports. The DBON is not only about sports achievements, but also community sports.

In connection with the DBON decision above, exercising in public open space area can be an alternative choice in exercising. Because sports can be done anywhere, both in an open field and in a closed room. Outdoor sports is one solution to prevent boredom in exercising indoors (Tortella & Fumagalli, 2021). There are two categories of public open space areas: temporarily closed public spaces (eg roads temporarily closed used as sports fields) and green spaces such as parks. Through community-based partnerships, the government is preparing a multidisciplinary strategy to temporarily close roads to motorized vehicles to increase pedestrians, runners, skaters and cyclists access to public open spaces area for recreational or sporting purposes (Paredes Prada et al., 2021). Exercising in an public open space area can get rid of boredom with exercise routines that are always done indoors. However, outdoor exercise is also at risk of exposure to pollution which can have a negative impact on health (Alawi et al., 2022).

Green public open spaces area such as parks and urban forests that are not polluted can help reduce heat and ultraviolet radiation and improve air quality (Alawi et al., 2022). Parks are important green spaces for moderate exercise and can improve your health not only physically but also mentally (Chen et al., 2022). Urban green public open spaces area (eg parks) are public spaces that can be used by different groups of people to improve their health (Wang et al., 2019). In general, public open space area is an alternative place for exercise and is carried out in their spare time, so that public open space area can be used as a place for these sports to attract the interest of the local community. Public open space area is currently widely used as an alternative sports practice. Sports that are often done in public open space area are aerobic sports such as walking, jogging, cycling and aerobics dance.

Aerobic dance is a sport that is gaining popularity among people who actively exercise. Aerobic dance stands out among many aerobic sports because of its unique appeal, intensity, relatively low difficulty, making it easy to perform, and can be performed by all ages, genders, communities, and lifestyles. It can be said that aerobic dance is currently a sport that is more suitable for improving the quality of the body and quality of life in general (Ji & Qiu, 2022). Aerobics dance is liked by the public for several reasons, for example because it can be done anywhere, alone or together, and is relatively inexpensive (Arfanda et al., 2022;Puspodari et al., 2022;Latuheru et al., 2022). Aerobics dance can also be classified as a recreational activity aimed at building social relationships(Arfanda, Aprilo, et al., 2022).

Regular aerobic dance exercise can cause cognitive and mood changes (Fausto et al., 2022). One of the mechanisms behind this is that exercise not only increases blood flow to the brain and improves cardiovascular function, but also changes the entire metabolic system. In addition, physical activity also includes cognitive and social activities that can improve overall brain function (Zhu et al., 2020). Aerobic dance exercise performed in public open space area has good psychological, physiological (lowering heart rate and blood pressure), biochemical (norepinephrine, adrenaline and cortisol) effects and improves social relationships (Makruf & Ramdhan, 2021).

Aerobics fitness community is getting more and more popular these days. Adjustment of intensity, duration and frequency of exercise can vary according to individual abilities (Zhu et al., 2020).

Aerobic dance exercise performed at least three times per week and lasting at least 150 minutes per week is equivalent to moderate intensity exercise, which offers significant health benefits compared to inactivity (Whitfield et al., 2021).

Therefore, the purpose of this research is to analyze the use of public open space area as an alternative to aerobic dance exercise in the city of Makassar, South Sulawesi.

METHODS

This research is a quantitative research that aims to determine the use of public open space area as an alternative place to exercise, especially aerobics dance exercise. The study was conducted in five public open spaces in Makassar City, namely CFD Boulevard, Pakui Sayang Park, Macan Park, Karebosi Field and CPI. The research subjects are the people who exercise in that place. In total there were 161 respondents, but only 138 respondents regularly exercised in public open space area facilities, so the information was focused on 138 active respondents. Participation of participants is voluntary in accordance with the established criteria, namely. participation of respondents who often do activities in public open spaces. Data collection was carried out by filling out questionnaires on Saturday and Sunday for three weeks, and data were analyzed by percentage.

The description of the location of the open area is as follows for CFD Boulevard which is located in downtown Makassar, like CFD in general, this CFD Boulevard is located on Jalan Boulevard and the main road will be closed on Sunday at 06.00 - 10.00 WITA. Pakui Sayang Park is a field managed by the Makassar city government, located near the city center, activities are held every day and there are several clubs that carry out regular training. Macan Park is one of the places that has historical monuments, besides that it also functions as a city park, Makassar residents often spend their time walking or exercising. Karebosi Field is one of the landmarks (famous symbols) in Makassar, the middle part of which functions as a sports field, but the difference is that there is a mall which is located under the field. CPI is a place with a very complex concept, developed by the Provincial Government of South Sulawesi, providing public open spaces area such as city parks, beaches, museums, places of worship and entertainment centers.

RESULTS AND DISCUSSION

Based on the information provided by 161 respondents in the questionnaire, the following results were obtained **Table 1.**

Table 1. Number of Respondents

Location	Amount	%
CFD Boulevards	22	14
Pakui Sayang Park	39	24
Macan Park	34	21
Karebosi Field	47	29
CPI	19	12
Total	161	100

Table 1. shows that 22 respondents or 14% who filled out the questionnaire chose to exercise at CFD Boulevard, 39 respondents or 24% of respondents exercised at Pakui Sayang Park, 34 respondents or 21% exercised at Macan Park and 47 respondents or 29% chose public open space area in Karebosi Field and 19 respondents or 12% are involved in sports at CPI. Total respondents who filled out the questionnaire were 161 people.

Table 2. Exercising Routine in Public Open Space Areas

Routine	Amount	%
Yes	138	86
No	23	14
Total	161	100

Table 2. shows that out of 161 respondents, there were 138 respondents or 86% stated that they regularly exercised in public open spaces area, while 23 respondents or 14% did not regularly exercise in public open spaces area. Therefore, for further data the researcher only focuses on data on respondents who actively exercise in public open space area, even though the place chosen is not settled, namely on 138 respondents, and further discussion will only focus on 138 respondents.

Table 3. Age of Respondents

Age (years)	Amount	%
Teenage (13-16)	2	1
Adolescent (17-25)	117	85
Early adults (26-35)	6	4
Late adults (36-45)	8	6
Early Elderly (46-55)	5	4
Total	138	100

Table 3. shows that 2 respondents were teenagers (13-16 years) or 1%, and 117 respondents were adolescent (17-25 years) or 85%, early adults (26-35 years) 6 respondents were 4%, 8 late adult respondents (36-45 years) or 6%, and early elderly (46-55 years) 5 respondents, namely 4%.

Table 4. Sports Performed

Kind of sport	Amount	%
Walking	6	4
jogging	84	61
Aerobics Dance	24	17
Weight Training	6	4
Bicycle	18	13
Total	138	100

Table 4. describes the respondents choices for outdoor sports activities. Walking was recommended by 6 respondents, or 4%, who chose jogging by 84 respondents or 61%, aerobics dance was chosen by 24 respondents or 17%, exercise using tools available in public places by 6 respondents or 4%, and cycling was chosen by 18 respondents or 13%.

Table 5. Exercise Frequency

Exercise Frequency / week	Amount	%
1-2 times	54	39
3-4 times	66	48
5-6 times	6	4
Every day	12	9
Total	138	100

Table 5. shows the respondents weekly exercise frequency: 54 respondents or 39% exercised 1-2 times per week, 66 respondents or 48% exercised 3-4 times per week, 6 respondents or 4% exercised 5-6 times per week and 12 respondents or 9% exercise every day.

Table 6. Exercise Duration

Duration/session	Amount	%
10-20 minutes	24	17
21-40 minutes	30	22
41-60 minutes	44	32
More than 1 hour	40	29
Total	138	100

Table 6. describes the duration of the exercises per training session: 24 respondents or 17% did 10-20 minutes per exercise, 30 respondents or 22% did 21-40 minutes per exercise, 44 respondents or 32% did 41-60 minutes per exercise and 40 respondents or 29% exercise for 1 hour per exercise.

Sport is a very important human need to maintain physical fitness and endurance. Sports performed in public open space areas are in great demand by all age groups, according to the results of this study aerobic dance exercise in public open space area is suitable for all age groups. This is in line with the aim of increasing the physical vitality of the community through city planning and strategies for designing daily recreational facilities according to the needs of various activities such as walking, cycling, jogging, inline skates, skateboarding, aerobics dance, etc. Exercising in green spaces such as parks can improve the physical and mental health of the perpetrators. This is caused by either directly or indirectly affecting a person's physiological state (Wu et al., 2022). Good air circulation must also be ensured during training in public open space area, because sports require faster breathing than usual, safety in sports must also be considered because field conditions can also endanger the user.

This is in accordance with the statement contained in DBON, namely sports coaching starts at an early age, starting at the age of 12 years or the equivalent of Grade 7 Junior High School (Sekolah Menengah Pertama or SMP). Young people who engage in moderate to vigorous physical activity and use their free time for hobbies can significantly improve their physical fitness. Adolescent health can be predicted based on their physical condition. Regular exercise is an important part of a healthy lifestyle. It is associated with a reduced risk of heart disease, obesity and cancer. Psychological well-being is also important when stress levels are lower and cognitive performance is better (Dewi et al., 2021).

Adolescent health is now a focus in several countries to lay a solid foundation for the country's development (Cheng, 2022). However, this does not rule out the health of late adults and early elderly, because there will always be concerns that late adults and early elderly are negligent in maintaining their fitness and health. City parks can bring many health benefits to late adults and early elderly especially in providing clean air, and can contribute significantly to their happiness (Zhai et al., 2022). So that public open spaces can support physical activity for teenagers to the early elderly.

Previous studies have shown that jogging and walking are the most popular individual sports and their location is green parks (Wu et al., 2022). This study shows that aerobic dance exercise is the second most popular sport after jogging. The survey results revealed that jogging is still the number one sport of choice in public open spaces area in Makassar, followed by aerobics dance in second place. Aerobics dance has become a popular aerobic exercise that helps accelerate the recovery of metabolic diseases (Haryono et al., 2022). As a sport that develops with a broad mass base and is recreational in nature (Clifford et al., 2022), the unique appeal of aerobics dance has made it loved by many people

and the movements of aerobics dance are different from most sports. The exercise intensity and movement difficulty are relatively low and rich in content, various forms, easy to do, for all ages, levels, regardless of gender, and can train cooperation between fellow athletes (Ji & Qiu, 2022).

Several systematic studies have shown that aerobic dance exercise can improve physical health and have beneficial effects on strength, endurance, fitness, balance, and mobility. Aerobic dance exercise not only improves and enhances physical fitness, but can also improve human cognitive function and prevent disability (Lazarou et al., 2017). Another study shows that aerobic dance exercise is more effective in achieving the desired VO2max change (Logeswaran et al., 2022). So it can be said that aerobics is currently a sport that is more suitable for improving the quality of the body in general. Quantitatively, a person's physical condition can be measured using cardiorespiratory endurance during exercise. Cardiovascular endurance is the ability of the heart, lungs and blood vessels to function optimally while the body is working, and to optimally distribute oxygen throughout the body, especially to active tissues, so that it can be used in the body's metabolic processes (Arimbi et al., 2019).

This study shows that the maximum exercise frequency is 3-4 times a week and the average duration of one exercise session is 41-60 minutes. This is supported by previous studies which show that less physical activity will not provide health benefits compared to people who exercise according to increased aerobic guidelines, namely a minimum of 150 minutes per week three times per week (Whitfield et al., 2021). Weekly exercise frequency and longer exercise duration were significantly associated with the effect achieved during the exercise period. A moderate-intensity exercise program performed 3 days per week for 20 weeks affects cardiorespiratory fitness, muscle strength and capacity (Lee & Stone, 2020).

Other studies have shown that high frequency of physical activity is inversely associated with cardiovascular disease risk (dose-response relationship), but changes in physical activity are associated with cardiovascular disease risk. At the age of late adults towards early elderly they tend to be physically inactive during, generally only do physical activity as much as 1-2 exercises per week, so they have a higher risk of cardiovascular disease compared to those who exercise 3-5 times per week (Kim et al., 2020). Exercising twice a week can provide benefits to improve performance and functional strength in the early elderly who are quite active. Therefore previous studies have shown that any resistance exercise, apart from exercise frequency, must be of sufficient intensity and volume to maximize functional performance and strength gains in late adulthood (Richardson et al., 2019).

CONCLUSION

The conclusion of this study is that the use of public open space can be used as an alternative during aerobic dance exercise by teenagers to early elders and brings benefits if it is done at least three times a week with an accumulated duration of at least 150 minutes per week.

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