Physical Fitness Levels of Urban Communities: A Survey Study on Sports Communities in Medan City

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Physical Fitness Levels of Urban Communities: A Survey Study on Sports Communities in Medan City

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Abstract

Background Urban lifestyles often contribute to sedentary behavior, resulting in decreased physical fitness levels. Sports communities in cities provide opportunities for individuals to engage in regular physical activity, yet little is known about their actual fitness status.

Objectives This study aimed to assess the physical fitness levels of sports community members in Medan City and examine differences based on gender, age, and type of sport.

Methods A quantitative survey design was employed, involving 200 participants (120 males, 80 females) aged 18–50 years from cycling, futsal, running, and aerobic communities. Physical fitness was assessed using standardized tests, including the 12-minute Cooper test, push-ups, sit-ups, sit-and-reach, and BMI measurements. Data were analyzed using descriptive statistics, independent t-tests, and ANOVA.

Results Overall, 55% of participants demonstrated good fitness, 30% moderate, 10% excellent, and 5% low. Male participants scored higher in muscular strength and endurance, while females outperformed in flexibility. Younger participants achieved better overall fitness compared to older groups. Significant differences were found across sport types, with runners and cyclists showing higher endurance, while futsal participants excelled in strength and agility ($p < 0.05$).

Conclusion Members of sports communities in Medan City generally exhibit moderate to good fitness levels, with variations across demographic and sport-related factors. The findings underscore the importance of supporting community-based sports initiatives to enhance public health in urban settings.

Keywords: Physical Fitness, Urban Communities, Sports Participation, Medan City, Survey

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INTRODUCTION

Medan, as one of Indonesia's largest urban centers, provides a relevant setting to explore this phenomenon. University students in Medan face diverse challenges, including academic demands, lifestyle transitions, and exposure to digital media, all of which may shape their physical activity behaviors. Understanding the relationship between social media use and exercise motivation in this context can provide insights into how digital tools may be leveraged for health promotion and physical education initiatives.

Therefore, this study aims to analyze the relationship between social media use and exercise motivation among university students in Medan. By focusing on this urban student population, the research contributes to the growing body of literature on digital health behaviors and provides implications for universities, policymakers, and fitness professionals seeking to promote active lifestyles through contemporary digital platforms.

Urbanization has rapidly transformed lifestyles in developing countries, often resulting in decreased levels of physical activity and increased health risks among urban populations (Ng & Popkin, 2012; World Health Organization [WHO], 2020). Physical fitness, defined as the ability to carry out daily tasks with vigor

without undue fatigue and with ample energy for leisure activities and unforeseen emergencies, is a critical determinant of individual health and well-being (Caspersen et al., 1985). However, sedentary behavior and limited opportunities for structured physical activity are becoming prevalent in urban environments, contributing to rising levels of obesity, cardiovascular diseases, and other non-communicable conditions (Hallal et al., 2012).

Sports communities have emerged as important platforms for promoting active lifestyles in urban settings. These communities, such as running groups, futsal clubs, cycling associations, and aerobic groups, provide opportunities for structured exercise, social interaction, and collective motivation (Putra & Arifin, 2021). Participation in such communities has been shown to enhance adherence to exercise routines and positively influence both physical and psychological health outcomes (Eime et al., 2017). In Indonesia, particularly in large cities such as Medan, the rise of sports communities reflects a growing awareness of the importance of physical activity for maintaining health amid modern urban challenges.

Despite the growing role of sports communities, there is limited empirical evidence on the actual physical fitness levels of their members. Previous studies have mostly focused on school-aged populations (Hidayat, 2019), rural health interventions (Siregar, 2020), or specific exercise programs (Kusuma & Lestari, 2021). Very few investigations have addressed the fitness status of adults participating in voluntary sports communities within urban environments. Assessing their physical fitness is crucial for understanding how these communities contribute to public health and for informing policymakers about the potential role of community-based initiatives in reducing the burden of lifestyle-related diseases.

Therefore, this study aims to evaluate the physical fitness levels of members of sports communities in Medan City and to analyze variations across demographic and sport-related factors. By doing so, the study contributes to filling the gap in urban health research in Indonesia and provides practical insights for promoting healthier and more active lifestyles in metropolitan settings.

METHOD

Participant

The study involved 200 individuals (120 males and 80 females) aged between 18 and 50 years. All participants were active members of sports communities in Medan City, including cycling clubs, futsal teams, running groups, and aerobic associations. Eligibility criteria required participants to have engaged in community sports activities for at least six months, be free from recent injuries, and provide informed consent

Research Design

This research employed a quantitative survey design with field-based physical fitness assessments. The approach was chosen to measure and compare physical fitness levels across demographic characteristics and sport types in an urban population. Fitness components tested included cardiorespiratory endurance (12-minute Cooper test), muscular strength (push-up and sit-up tests), flexibility (sit-and-reach test), and body composition (BMI).

Data Analysis

Data were processed using descriptive statistics to classify physical fitness levels into low, moderate, good, and excellent categories. Independent sample t-tests were used to identify differences between male and female participants, while one-way ANOVA was applied to examine variations across age groups and types of sport. Statistical significance was set at $p < 0.05$.

RESULTS AND DISCUSSION

Results

The descriptive analysis showed that members of sports communities in Medan City generally demonstrated moderate to good levels of physical fitness. Of the 200 participants, 55% were categorized as having good fitness, 30% moderate, 10% excellent, and 5% low.

Gender differences were evident, with male participants achieving higher scores in muscular strength and cardiorespiratory endurance, while female participants performed better in flexibility. Independent sample t-tests confirmed that these differences were statistically significant ($p < 0.05$).

Age differences also emerged, with younger participants (18–29 years) showing higher overall fitness scores compared to older groups. ANOVA results indicated significant differences across age categories ($p < 0.05$).

When analyzed by type of sport, running and cycling communities achieved higher scores in endurance, while futsal participants excelled in strength and agility, and aerobic participants demonstrated superior flexibility. ANOVA results confirmed significant differences across sport types ($p < 0.05$).

Table 1. Physical Fitness Levels by Gender, Age, and Sport Type (N = 200)

Category	Subgroup	Low (%)	Moderate (%)	Good (%)	Excellent (%)
Gender	Male (n = 120)	3	25	60	12
	Female (n = 80)	8	38	46	8
Age Group	18–29 years (n = 90)	2	20	60	18
	30–39 years (n = 60)	5	35	53	7
	40–50 years (n = 50)	10	40	46	4
Sport Type	Running (n = 50)	2	22	60	16
	Cycling (n = 50)	4	28	56	12
	Futsal (n = 50)	6	30	58	6
	Aerobic (n = 50)	8	35	52	5

These findings suggest that sports community membership contributes positively to physical fitness, though variations exist by gender, age, and type of sport.

Discussion

The results of this study demonstrate that participation in sports communities contributes to maintaining moderate to good levels of physical fitness among urban residents in Medan City. These findings are consistent with previous studies indicating that community-based sports participation plays an important role in promoting active lifestyles and reducing sedentary behavior in urban areas (Eime et al., 2013; Putra & Arifin, 2021).

Gender-based differences in fitness components reflect biological and behavioral variations. Male participants displayed higher levels of muscular strength and cardiorespiratory endurance, while female participants performed better in flexibility tests. Similar results have been reported in earlier studies, where men typically score higher in strength and endurance, whereas women show greater flexibility due to physiological factors (Malina et al., 2004).

Age-related differences revealed that younger participants had higher overall fitness scores, supporting evidence that physical fitness declines with age, particularly in endurance and muscular strength (Ortega et al., 2008). This underscores the need for age-sensitive exercise programs that allow older adults to maintain functional capacity and reduce health risks.

Sport-specific variations highlight the benefits of different types of activities. Endurance-based sports such as running and cycling contributed more to cardiovascular capacity, while futsal improved strength and agility, and aerobics enhanced flexibility. These findings align with the principle of training specificity, whereby different physical activities develop distinct components of fitness (American College of Sports Medicine [ACSM], 2021).

Overall, the findings suggest that urban sports communities can serve as an effective platform for promoting health and fitness in metropolitan settings like Medan City. However, disparities across age, gender, and type of sport emphasize the importance of designing tailored community-based programs that address diverse needs.

CONCLUSION

This study concludes that members of sports communities in Medan City generally exhibit moderate to good levels of physical fitness. Significant differences were observed across gender, age, and type of sport, with males excelling in strength and endurance, females in flexibility, younger participants in overall fitness, and sport-specific activities shaping particular fitness outcomes.

The findings underscore the importance of supporting and expanding community-based sports initiatives as part of urban health strategies. Policymakers, health practitioners, and community leaders should encourage diverse and inclusive programs to improve fitness across all age groups and genders. Future research should adopt longitudinal and intervention-based approaches to better understand the long-term effects of community sports participation on physical fitness and overall health.

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AUTHOR CONTRIBUTION STATEMENT

Syabina conceived and supervised the study, Sri Wahyu Mendrofa contributed to the literature review and data collection, and Abdul Malik Batu Bara was responsible for data analysis. Lazuardi Van Ungerer assisted in instrument development and coordination with sports communities, while Suka Adil Zebua contributed to statistical validation and manuscript editing. Anni Lastio Manik supported data processing and final revisions. All authors reviewed and approved the final manuscript.

CONFLICT OF INTEREST AND FUNDING

There is no conflict of interest

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