Physical Activity Habits Among College Students in North Goa: A Preliminary Analysis

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ABSTRACT

Assessment of Physical Fitness Among College Students in Goa Physical fitness plays a crucial role in maintaining good health and enhancing overall well-being, particularly among college students who face academic stress, social adjustments, and lifestyle changes. Research shows that physical inactivity in young adults is linked to long-term health issues like obesity, cardiovascular diseases, and metabolic disorders. Despite the government's push to promote physical activity through programs like the Fit India Movement, there is limited data on the physical fitness levels of college students in Goa. This study examines the physical activity habits of students at DCT's Dhempe College of Arts & Science, North Goa, to establish baseline data and identify gender differences in physical activity levels. A total of 330 students (101 male & 229 females) participated in the study, with data collected using a modified exercise test based on the Finnish Heart Association's model. Results showed that male students reported higher physical activity levels (mean 35.02) than females (mean 28.74). Additionally, 33% of male students reported 'Very Good' physical activity habits, while 43% of females reported 'Quite a Bit' of activity. The findings highlight significant gender disparities, emphasizing the need for targeted interventions, especially for female students, to promote active lifestyles and improve overall health in line with Fit India guidelines. .

Keywords : physical activity, college students, fitness levels, gender disparity, Fit India Movement, Goa

Background

Physical fitness is essential for maintaining good health and improving overall well-being. It is particularly important for college students, who often face a combination of **academic pressures, social adjustments, and new lifestyle habits** that may lead to a sedentary lifestyle. Research indicates that college students in India, like their counterparts worldwide, exhibit **low physical fitness levels** due to reduced engagement in physical activity. A sedentary lifestyle among young adults has been linked to long-term health risks such as **obesity, cardiovascular diseases**, and **metabolic disorders** (World Health Organization, 2020).

Despite the global emphasis on promoting physical activity, there is **limited research** focused on the physical fitness levels of college students in Goa. Existing studies from other regions of India, such as **Delhi, Tamil Nadu, Kerala** , and **West Bengal** , have shown that physical activity levels among college students are generally low. A study conducted in Tamil Nadu found that only 18% of college students had normal physical fitness levels (Anand & Kumar, 2016), while similar findings were reported in Kerala **(23.7%)** (Sreekumar & Santhakumari, 2014) and West Bengal **(22.6%)** (Mitra et al., 2017). Furthermore, research indicates that **male students** tend to have higher physical fitness levels than females (Kaur & Singh, 2017), and students who engage in regular physical activity tend to demonstrate better overall fitness (Mitra et al., 2017).

Purpose of the study

The purpose of this preliminary study is to assess the physical activity habits of college students at DCT's Dhempe college of Arts & Science, North Goa, as a foundation for designing interventions aligned with Fit India guidelines. This trial will help identify current activity patterns and habits, providing insights to develop targeted strategies to improve student fitness. The findings from this initial phase will serve as a basis for expanding the study across North Goa in the next stage, & better understanding of student activity habits for more effective intervention planning.

Rationale of the Study

The Fit India Movement, launched by the Government of India in 2019, aims to encourage citizens to adopt a physically active lifestyle and improve overall fitness levels. This Movement emphasizes the importance of incorporating regular physical activity into daily routines and creating a culture of fitness, particularly among young adults.

Studying the physical activity habits and fitness levels of college students before offering any programs and interventions is essential to ensure that the strategies are evidence-based, targeted, and effective. Existing research highlights varying levels of activity, gender disparities, and barriers like time constraints and motivation gaps, but localized data for Goa is lacking. By addressing the gap in research on college students' physical activity habits in Goa, the findings from this study will contribute to the national goal of improving fitness levels among young adults as part of the Fit India Movement.

Literature Review

Several studies conducted across India have highlighted the poor physical fitness levels among college students.

Kumar (2021) in a study assessed physical activity levels among 454 university students in Chidambaram using the IPAQ-SF. Results showed that 23.8% were physically active, while 76.2% were inactive. Females (69.1%) were more inactive than males (30.9%), and females were 3 times more likely to be inactive than males (OR = 3.011, $p < 0.05$). The study highlights a significant gender gap in physical activity and suggests promoting vigorous exercise, especially among female students, to reduce health risks.

Podder et al. (2021) analyzed physical activity patterns in India using data from 233,805 individuals in a nationwide study. Results showed that 20% of the population is physically inactive and 37% are mildly active. Physical inactivity was higher among urban residents (21.7%) than rural (18.8%), and higher in central and south zones. Females (21.2%) were more inactive than males (19.2%). The study highlights the need for improved national policies to reduce physical inactivity and prevent NCDs.

The ICMR-INDIAB study (Phase 1) assessed physical activity patterns in 14,227 adults (20+ years) from Tamil Nadu, Maharashtra, Jharkhand, and Chandigarh. It found that 54.4% were inactive, with higher inactivity in urban (65%) than rural areas (50%). Males were more active than females. Most activity occurred at work, with over 88% reporting no recreational activity. Inactivity increased with age. The study highlights the urgent need to promote physical activity to reduce obesity and diabetes risks. (2014b)

Ransinghe (2013) systematically reviewed physical activity (PA) patterns among South Asian adults. It analyzed 11 research articles and 11 WHO STEPS survey reports, finding a wide variation in physical inactivity levels across countries (e.g., India 18.5%–88.4%, Pakistan 60.1%, Sri Lanka 11.0%–31.8%). Most South Asians

were inactive during leisure time, but more active in transport-related activities. Socio-demographic factors influenced inactivity levels. The study highlights the need for targeted interventions to improve PA.

The study by Eichorn et al. explored factors influencing college students' exercise habits through a survey of 124 students. Key motivators were staying healthy (M = 3.42), feeling good after exercise (M = 3.22), and social influence (M = 2.99). Barriers included heavy homework loads (M = 3.10). Psychosocial factors had a greater impact than physical benefits. Recommendations included improving time management and educating students on exercise's emotional and physical benefits. The study suggests promoting balanced lifestyles to enhance exercise habits.

The study conducted by Alkatheeb et al (2019) examined the exercise habits of 417 university students in Saudi Arabia before and during college. It found a significant decline in physical activity after starting college ($p = 0.000$). Time restrictions (18.5%) were the most common reason for not exercising, while improving body shape (48%) was the top motivator. The study suggests promoting awareness and improving sports facilities to encourage physical activity among college students.

Sun, Liang, Wang, Chen, Zhang (2025) analyzed physical fitness trends of 58,472 college students in Anhui Province over a decade. Results showed declining overall fitness, with boys outperforming girls except in flexibility. Fitness scores dropped notably post-2019, with increased overweight (2.1x) and obesity (4.4x) rates. COVID-19 significantly impacted fitness levels. Future predictions indicate worsening performance in speed, endurance, and strength, despite gains in height and lung capacity. Targeted interventions are needed to address obesity and declining fitness.

The systematic review by Kljajević et al. (2021) examines the relationship between physical activity and physical fitness among university students. It highlights a decline in physical activity levels and fitness over time, with factors such as lifestyle changes and academic pressures contributing to the trend. The study emphasizes the need for targeted interventions to improve fitness and promote active lifestyles among students. The authors suggest integrating structured physical activity programs into university settings to address this issue. There is a significant research gap in understanding physical activity and fitness patterns among college students in Goa. While national studies, such as those by Kumar (2021) and Podder et al. (2021), reveal low physical activity levels and gender disparities, no specific data exists for Goa. Psychosocial barriers like time constraints and motivation gaps need to be assessed locally. Measuring fitness levels and studying physical activity habits among Goan college students can provide targeted insights. Aligning findings with the Fit

India Initiative could help design effective interventions to promote physical activity and fitness among students.

Methodology

Participants and Sampling

The study recruited a convenience sample of 330 college students (101 male and 229 female) from DCT's Dhempe college of Arts & Science, North Goa. The sample included students from Science & Arts academic streams.

Table No 1 : *Distribution of Students by Stream and Gender*

Stream	Male	Percent	Female	Percent	Total	Science
Science	66	65.3%	151	65.09%	217	65.8%
Arts	35	34.7%	78	34.1%	113	34.2%
Total	101	100%	229	100%	330	100%

Data Collection

Data were collected using an online Google Form designed to capture detailed information on participants' physical activity habits, demographics, and related behavioral factors. The convenience sampling approach was chosen to ensure an accessibility and representation of the particular college.

Assessment Instrument: Modified Exercise Test

The primary tool used to assess physical activity habits was a **modified version of the exercise test** originally published by the Finnish Heart Association (Sydänliitto, sydan.fi) (FSHS, 2024). The instrument was suitable for the student demographic in North Goa, considering **cultural, environmental, and behavioral factors** specific to the local population. The FSHS exercise habit survey provides insights into the physical activity habits of college students by assessing factors such as exercise frequency, type, duration, motivation, barriers, and recovery. It evaluates students' self-perceptions of physical fitness and identifies challenges to maintaining a consistent exercise routine. The survey helps to identify patterns in physical activity behavior, supporting targeted health and fitness interventions.

Results and Discussion

The data collected for this study was analyzed using descriptive statistics, focusing on the frequency and measures of central tendency for physical activity habit scores. This analysis aims to provide a clear understanding of the activity levels and patterns among students at DCT Dhempe College, forming the basis for targeted interventions aligned with Fit India guidelines.

Table no. 2 : *Physical Activity Habit Scores and Percentages Among Male and Female College Students*

PA Habit Score Range	Male (n=101)	Female (n=229)
Poor	2 (2%)	3 (3%)
Needs Improvement	9 (9%)	39 (17%)
Quite a Bit	20 (20%)	99 (43%)
Good	37 (37%)	56 (24%)
Very Good	33 (33%)	32 (14%)
	101 (100%)	229 (100%)

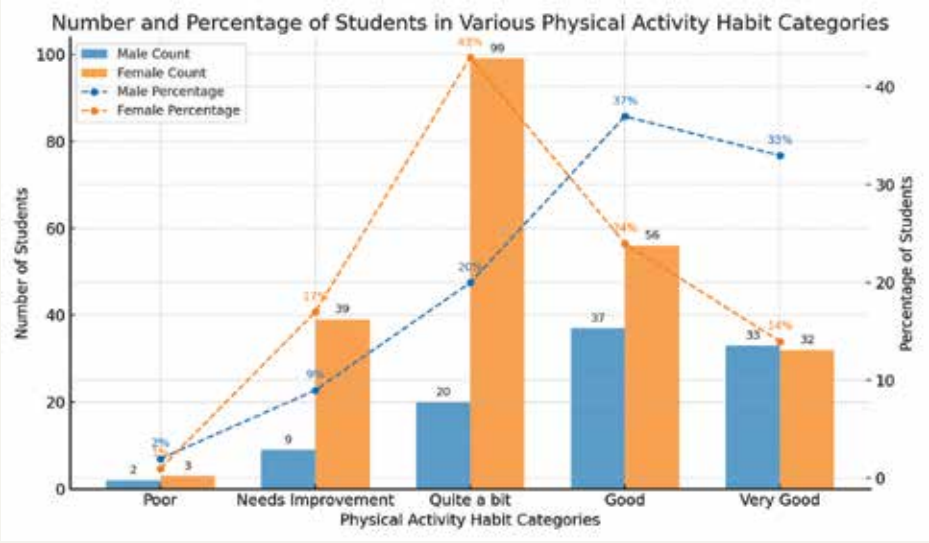

Figure 1 : *Chart showing number & percentage of students in various PA Habit categories*

The table no 2 presents the distribution of physical activity habit scores among male and female college students. Among males, a higher percentage (33%) reported 'Very Good' physical activity habits compared to females (14%). Similarly, more males (37%) reported 'Good' habits than females (24%). Conversely, a notable percentage of females (43%) reported 'Quite a bit' activity habits compared to males (20%). Additionally, more females (17%) than males (9%) indicated that their physical activity habits 'Need Improvement'. This reflects that while male students demonstrated higher levels of consistent physical activity, female students showed greater variability, with a higher percentage needing improvement despite some maintaining moderate activity levels.

Table no 3 : *Descriptive Analysis of Physical Activity Habit Scores Among Male and Female Students*

	Male Students (n=101)	Female Students (n=229)
Mean PA Score	35.02	28.74
Median PA Score	38.00	27.00
Mode	40	22
Standard Deviation	10.299	9.512
Range	45	46
Minimum	5	4
Maximum	50	50

The analysis of physical activity (PA) habit scores among male and female students reveals notable differences in their activity patterns. The sample size included 101 male and 229 female students. The mean PA score for male students was higher at 35.02 compared to 28.74 for female students, indicating that male students generally exhibited better physical activity habits. The median score also reflected this trend, with males scoring 38.00 and females 27.00. The mode for male students was 40, while it was lower at 22 for female students, further suggesting more consistent higher activity levels among males. The standard deviation was slightly higher for males (10.299) than for females (9.512), indicating more variation in male students' activity levels. The range was similar for both groups, with males ranging from a minimum score of 5 to a maximum of 50, and females from 4 to 50. These findings highlight a consistent gender disparity in physical activity habits, with male students demonstrating higher overall scores and greater variation, suggesting the need for targeted interventions, especially among female students, to enhance physical activity levels.

Discussion & Conclusion

The study found that male college students in North Goa exhibit higher physical activity levels compared to female students. The findings align with previous research conducted in other parts of India. The findings indicate a clear gender disparity in physical activity habits among college students, with male students exhibiting higher levels of physical activity and greater variability in scores compared to female students. The higher proportion of female students in lower activity categories underscores the need for gender-specific strategies to enhance physical activity participation. The results from this preliminary study provide a foundation for developing targeted interventions aligned with Fit India guidelines to improve overall physical activity levels among college students, particularly for female students. These insights will inform future studies and broader surveys across North Goa to refine and implement more effective physical activity programs.

Implications

The preliminary study successfully assessed the physical activity habits of college students at DCT's Dhempe College, revealing notable gender disparities and variations in activity levels. The higher mean score for male students and the greater proportion of female students in the "Needs Improvement" and "Quite a Bit" categories highlight the need for gender-specific strategies. This trial has provided valuable baseline data for understanding student activity patterns, which will guide the development of targeted interventions aligned with Fit India guidelines. The next phase will expand data collection to other colleges across North Goa, assessing both physical activity habits and fitness levels as well. Based on these findings, a structured intervention program aligned with Fit India guidelines will be designed to enhance physical activity and fitness among college students.

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