

## Assessing the Universal Accessibility of Fitness Centers in Addis Ababa, Ethiopia

Abera Dessalegne<sup>1</sup>, Prof. Paramvir Singh<sup>2</sup>

<sup>1</sup>Research Scholar Department of Sports Science Punjabi University, Patiala, India

<sup>2</sup>Head & Supervisor Department of Sports Science Punjabi University, Patiala, India

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**Abstract:** People from every corner of the world face up with a number of serious health and social issues such as obesity, diabetes, depression, hypertension and cancer caused mainly due to physical inactivity and diets. Most non-communicable diseases (NCDs) according to the report by WHO (2011a), are strongly associated and causally linked with particular behaviours of tobacco use, physical inactivity, unhealthy diet and the harmful use of alcohol. There are more and more evidences which support that regular exercise can help to maintain health. The fitness centers can offer the customers physical activities through different programmes. Therefore, the demand of the fitness centers is increasing rapidly. A report by the International Health Racquet & Sports Club Association's (IHRSA, 2014) indicated that the health and fitness club industry recorded dramatic growth globally; in 2013, over 153,160 fitness centers worldwide. There was no research tried to assess the situation of fitness centers in Addis Ababa especially their universal accessibility. The purpose of this study therefore was to evaluate the accessibility of fitness centers in Addis Ababa, Ethiopia. A quantitative descriptive study was conducted using a professional version of the AIMFREE (Rimmer et al., 2004) check list. Data was collected from thirty nine fitness centers. The results obtained from the check-list showed that none of the 39 facilities were 100% accessible. Mean accessibility ratings ranged between 24.83% and 87.93%. Overall, Hotel fitness centers had higher accessibility scores than Commercial fitness centers, with significant differences found on Locker rooms and showers, bathrooms, access routes and entrance areas, information and equipment. Generally, the environments of the twenty four Commercial fitness centers assessed were less than average in their accessibility. These fitness centers were in the worst condition in which most of the categories scored less than average. Efforts should be made by the Addis Ababa Youth and Sports at establishing and meeting universal accessibility guidelines for physical activity facilities and encouraging person with disabilities participation.

**Keywords:** Accessibility, Fitness centers, Physical activity

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### I. Introduction

Now a day people from every corner of the world face up with a number of serious health and social issues such as obesity, diabetes, depression and cancer caused due to physical inactivity and diets. Most non-communicable diseases (NCDs) according to the report by WHO (2011a), are strongly associated and causally linked with particular behaviours of tobacco use, physical inactivity, unhealthy diet and the harmful use of alcohol. The world health organization projects indicates that, globally, deaths due to non communicable diseases will increase by 17% over the next ten years and the greatest increase will be seen in the African region (27%), (WHO, 2008). In sub-Saharan Africa, NCDs are projected to be the leading cause of death by 2030. Mortality from non communicable diseases (NCDs) alarmingly high and is increasing. World health organization reported that thirty-eight million people die each year from NCDs, and this report shows over 14 million deaths from NCDs occur between the ages of 30 and 70, of which 85% are in developing countries (WHO, 2014). An estimated 30% of all deaths in Ethiopia (cardiovascular diseases 9%, cancers 6%, chronic respiratory diseases 3%, diabetes 1% and other NCDs 11%), according to an assessment of health report by WHO (2014) show were caused by non-communicable diseases. In addition as indicated by this report in 2008 the prevalence of other behavioural and metabolic risk factors including: physical in activity (17.9%), raised blood pressure (35.2%) and overweight (7.2%) also registered. Elevated blood pressure, obesity, and physical inactivity are more concentrated in urban populations. The study by Fikru T., (2008) revealed that predictable risk factors associated with cardio vascular diseases, such as elevated blood pressure, physical inactivity, and overweight/obesity are widely prevalent in the urban population of Ethiopia. The prevalence of high blood pressure (31.0%), overweight (20.5% in males and 37.4% in females), and physical inactivity (17.2% in males and 32 % in females) were of particular concern in Addis Ababa.

There are 3.2 million deaths annually that are attributed to insufficient physical activity alone (WHO 2013). Chronic illnesses of NCDs can lead to tremendous social and economic burdens due to absenteeism, job loss, a costly medical expenses, as well as increased care giving responsibilities or even the death of a main source of income. On the other hand the known benefits of regular sports activity is better weight control,

muscle strength and lower blood pressure. Most of the non-communicable diseases can be preventable. People join fitness centers for different goals especially to make their life longer by eating healthy food, reducing stress and regularly exercising. All the problems due to NCDs can be minimized through physical activities and proper nutrition advices and the fitness center may be in a proper position to provide the services. Therefore, the demand of the fitness centers is increasing rapidly. The health and wellness-related service providers aim at promoting the optimum health of the totality of the individual. According to Wuest & Bucher, (2003) their services span beyond the arenas of disease prevention and rehabilitative interventions to encompass such areas as physical, social, and emotional orientation. Fitness centres set about providing services in the form of exercises/fitness programmes, nutrition counselling, body massage and a host of others, all geared towards enhancing the fitness status and the overall wellbeing of their customers. Accordingly, exercise has become a popular activity and the health and fitness centres have become a fast growing business. The fitness industry is a rapidly growing industry and being fit now a day has shifted from a luxury to being a basic need. As a result large number of fitness centres has opened up across cities. A report by the International Health Racquet & Sports Club Association's (IHRSA, 2014) indicated that the health and fitness club industry recorded dramatic growth globally; in 2013, over 153,160 fitness centers worldwide provided services to 131,741,120 members and their revenues reached up to 75.7 billion dollars. These facts confirm that fitness industry is highly expanding and people are aware of the benefits of fitness centers. In Addis Ababa large hotels frequently include a fitness centre as one of the facilities offered to their guests or to the community on a membership fee basis and Commercial fitness centres are also commonplace at different parts of the sub-city.

Therefore, as a country like Ethiopia many people encounter poor state of health due to lack of regular physical activity, the fitness industry, parks and green areas have to be recognized as a means of providing therapeutic exercise and recreational activities. Consequently, the availability of park and recreation resources and easy, safe access to them is a promising opportunity to encourage increased levels of physical activity in all people. As Fikru T, (2008) indicated there has been little development in the necessary physical environment and physical facilities to accommodate the sports related needs of the population or even allow the basic needs of walking in the urban neighbourhoods. When people have access to parks, they exercise more. Parks provide urban inhabitants with opportunities for physical activity, social interaction, and enjoyment of nature (Weber & Anderson, 2010). But in Addis Ababa few areas left as a green space or park. Associated loss of urban green space has been linked to poorer health and decreased quality of life for many city inhabitants (The World Bank, 2011). As seen clearly the residents of Addis Ababa do not have adequate access to parks and open space. To an amazing extent, the role of parks in providing physical activity health benefits was ignored in Addis Ababa. Too few parks and recreational facilities are available throughout the city and this can have an impact on physical activity levels of people. Access to sports facilities is very limited and public parks and playgrounds are progressively shrinking being replaced by other commercial investment facilities. So the only solution the community has is to join fitness centers. The fitness industry in Addis Ababa has received no research attention from an accessibility perspective; and hence there is lack of documented scientific evidence regarding the current facilities status. It is not only important to assess what role this industry is playing in getting and keeping peoples active, but it is also important to evaluate the extent to which the needs of all peoples are being, or can be, met by the industry. Currently Ethiopia does not have a single entity representing the fitness industry, and to date, no equivalent of the IHRSA industry surveys and report. This should be seen as important as the fitness industry represents a significant vehicle for social and economic development in the country, as employer, through the provision of jobs, and as consumer, through improving health and thereby potentially reducing the burden of disease.

At present as to the knowledge of the researcher the Addis Ababa fitness industry has not been researched, and no comprehensive inventory exists that lists all facilities comprising this sector. There is no information available concerning facilities and service providers in the fitness centers. In order to investigate the customer satisfaction, Lam, Zhang and Jensen (2005) suggested three key domains of customer service; they are: Personnel, Program and Facility are very important. These three domains included most of components in the fitness centers. The focus of this research study was to determine the accessibility of the fitness centers to all and generally the overall assessment of the situations of fitness centres in Addis Ababa. Additionally it was aimed at assessing fitness centres with a view to ascertaining its implications for sports development and inclusion in the country. They could use this research work as an ongoing basis to assess the changes in physical activity in the city administration as well as in the country. It would also be interesting to match these trends against international media's health messages around accessibility. Evaluating the fitness centers is necessary in order to see what changes need to be made to develop better facilities that can be used by all populations.

## II. Materials And Methods

**Research Design:** This was a quantitative non-experimental descriptive study. The study was conducted in the Commercial and Hotel fitness centers Addis Ababa, Ethiopia. The study was undertaken to analyze the situations or the accessibility of fitness centers. 15 Hotel fitness centers and 24 Commercial fitness centers were participated from Addis Ababa city administration.

**Measures:** Demographic information was collected on the type of facility and location. Universal Accessibility was assessed using a professional version of the AIMFREE (Rimmer et al., 2004) that included seven of the original 16 subscales and the focus of the professional behaviour subscale was omitted because it was no at least one person with a disability using the facility during the assessment. Possible responses to each of the items were Yes, No, or Not Applicable.

**Participants:** Sixty eight fitness centers within the Addis Ababa city administration were identified through communication with the Youth and Sports bureau sport for all sectors and 39 fitness (24 Commercial fitness centers, 15 Hotel fitness centers) centers evaluated. The two fitness centers types differed as a function of location; Hotel fitness centers provide services with fee for customers or without fee for temporary gusts of the hotel and Commercial fitness centers belonging totally for profit that provided infrastructure and programs for customers to participate in physical activity. Fitness centers managers or instructors were tried to reply to questions in relation to the physical environment of the facilities they work in.

**Statistical Analysis:** Data collected from the participating fitness centers were analyzed using the scoring method provided in the AIMFREE fitness manual. These results were analyzed with descriptive statistics. Statistical analyses were performed using SPSS 20.0 for Windows. The results were given as Mean ± Standard Deviation and percentages. Independent t-test was used for comparisons between Commercial and Hotel fitness centers. A p-value of 0.05 or less was considered as statistical significance.

## III. Results

The descriptive analysis is presented in Tables-1 below.

**Table- 1.** Mean Universal Accessibility Scores (%) for the AIMFREE Subscales

Subscale	No of facility	Universal Accessibility Score (%) M ± SD
Access routes and entrance areas	39	53.23±20.398
Equipment	39	60.41±32.454
Facility information	39	52.13±27.886
Locker rooms and showers	39	36.38±25.353
Hot tubs, whirlpools, saunas, steam rooms	21	67.38±17.985
Elevators	16	53.56±18.385
Bathrooms	39	60.59±24.569

The accessibility scores are shown as percentages the fitness centers. Scoring is based on Rimmer et al.'s (2004) linear conversion accessibility scale. Higher ratings indicate a greater accessibility score for the respective subscale. The results of the research study show that none of the 39 participating fitness centers were 100% accessible. Of the seven subscales evaluated at each participating facility the highest scoring subscales were Hot tubs, whirlpools, saunas, steam rooms (67.38%), Bathrooms (60.59%), and Equipment (60.41%). The areas of lowest accessibility found within the participating fitness centers were Locker rooms and showers (36.38%), Facility information (52.13%), and Access routes and entrance areas (53.23%). There were no facilities that were 100% accessible.

**Table-2:** Mean of Selected AIMFREE Percentile Ranks by Facility Type

Subscale	Facility Type				t-value	p-value
	Commercial Fitness centers		Hotels fitness centers			
	N	Mean (SD)	N	Mean (SD)		
Access routes and entrance areas	24	39.25 ±7.67	15	75.60 ±12.70	-10.0	.000
Equipment	24	43.21 ±29.24	15	87.93 ±11.63	-5.629	.000
Information	24	37.88 ±24.94	15	74.93 ±13.54	-6.001	.000
Locker rooms and showers	24	24.83 ±15.83	15	54.87 ±27.17	-3.888	.040
Hot tubs, whirlpools, saunas, steam rooms	6	56.33 ±15.63	15	71.80 ±17.37	-1.892	.074
Elevators	4	50.75 ±15.17	12	54.50 ±19.86	-.343	.737
Bathrooms	24	44.54 ±15.99	15	86.27 ±8.40	-10.647	.000

The study documents that there was statistically significant difference in most of the parameters (Table 2). The AIMFREE questionnaire explored the structural environment of the fitness centers to discover the obstacles to participation in physical activity in fitness centers. The results of this study found that Hotel fitness centers were more accessible than Commercial fitness centers. While Hotel fitness centers seem to have greater awareness of how to make a facility accessible, greater efforts must be made to achieve accessibility ratings that are closer to 100% accessible. Differences in mean scale scores were noted between the two types of fitness

centers in access routes and entrance areas, Equipment, Information, Locker rooms and showers and bathrooms. No significant differences were found in Hot tubs, whirlpools, saunas, steam rooms and elevators. Hotel fitness centers had a higher mean scale score in all subscales than Commercial Fitness centers. These results suggest that Hotels fitness centers have better accessibility for access routes and entrance areas, equipment, information, locker rooms and shower room and for bathrooms. Overall, the mean percentile for the commercial fitness centers in all sections except for Elevators and Hot tubs, whirlpools, saunas, steam rooms was lower than 50% but for the Hotel fitness centers in all the sub scales they scores greater than 50% . It is notable that Commercial fitness centers had five sections (access routes and entrance areas, information, locker rooms and showers, elevators, and bathrooms) below 50%, while Hotel fitness centers had no section below 50%. Differences in mean percentile rankings were noted between the two types of fitness centers in access routes and entrance areas, equipment, in information, and in bathrooms. Hotels fitness centers had a higher mean percentile rank subscales than Commercial Fitness centers. In general we can conclude that Hotels fitness centers were more accessible than commercial fitness centers, with significant differences in accessibility of access routes and entrance areas, equipment, information and bathrooms. The Commercial fitness centers were not conducive to provide accessible physical activity opportunities and the Hotel fitness centers were accessible and they were in better condition to be inclusive for all people with and without disabilities.

#### **IV. Discussion**

Fitness centers have to be accessible and be inclusive to every person. To minimize the health burden of a sedentary lifestyle fitness centers can play a major role if they serve the customers properly and inclusively. This research on fitness centers regarding levels of accessibility for people with or without disabilities may helps to the identification of physical environment and social issues problems. There is a growing need to learn more about the characteristics of an exercise facility and what drawbacks exist that prevent people with or without disabilities from joining the fitness centers. This is an analysis and discussion of the accessibility assessed in Commercial and Hotel fitness centers in Addis Ababa, Ethiopia. The majority of the participating fitness centers had an accessible entrance route, which is consistent with previous studies (Sá et al., 2012); but according to the data obtained most (84.6%) of the accessible running routes were not clearly marked by signage. An accessible route is a clear path at least 36 inches wide with no steps or stairs that goes from the parking lot into the building and to and through all the areas (ADA, 2010). An important feature that makes it possible for all people to manoeuvre around independently is an accessible route. Without it the facility will not be usable by all people. The twenty four Commercial fitness centers facilities received relatively low overall universal accessibility ratings (39.25%) with the highest score was hot tubs, whirlpools, saunas, steam rooms (56.33%) and with the lowest scored by locker rooms and showers (24.83%), but the fifteen Hotel fitness centers shows better overall universal accessibility rating (75.60%), with the highest ratings shown for the equipment (87.93%) and bathrooms (86.27 %) and the lowest accessibility ratings were shown for the elevators (54.50%), locker rooms and showers (54.87%). In both types of fitness centers none of the facilities scored 100% on all the AIMFREE subscales. Despite the better universal accessibility ratings of the Hotel fitness centers than that of Commercial fitness centers, there were areas where facilities have problems in providing accessible environments. For instance, many of the Hotel fitness centers have no equipment available that individuals need to transfer onto, recumbent bike grab bars and wheelchair roller.

The result from the independent t-test indicated that there is a significance difference ( $P < 0.05$ ) in accessibility between Commercial fitness centers and Hotel fitness centers in access routes and entrance areas, equipment, information, locker rooms and showers and bathrooms. In all these sub categories of accessibility measurement Hotel fitness centers were highly accessible than that of Commercial fitness centers. In another case there is no significance difference ( $P > 0.05$ ) between these two types of fitness centers in elevators and hot tubs, whirlpools, saunas, steam rooms sub categories.

#### **V. Conclusions And Recommendations**

- Hotel fitness centers shows better overall universal accessibility rating, with the highest ratings shown for the equipment and bathrooms, and the lowest accessibility ratings were shown for the elevators, locker rooms and showers.
- In both types of fitness centers none of the facilities scored 100% on all the seven AIMFREE subscales.
- The Commercial fitness centers facilities received relatively low overall universal accessibility ratings with the highest score was hot tubs, whirlpools, saunas, steam rooms and with the lowest scored by locker rooms and showers
- Bathrooms, information, locker rooms and showers, equipment, access routes and entrance areas of Commercial fitness centers were inaccessible.

It is recommended that:

- Addis Ababa fitness centres especially the Commercial fitness centers must improve their facilities.
- Strategies must be implemented in order to bring facilities to the 100% percentile accessibility.
- The Addis Ababa Youth and Sports needs to be down to business in educating fitness owners and managers on the accessibility of the fitness centers.
- They have to provide recommendations on structural modification and adaptation, adaptive equipment, and employee education to help facility owners and managers provide an inclusive exercise environment for all.
- Accessibility guidelines should be established for facility owners to adhere to. Periodical monitoring system should be created that confirms whether fitness centers are making their facility accessible to all.

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