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

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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 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

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

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

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Facility Type</th>
<th>Commercial Fitness centers</th>
<th>Hotels fitness centers</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access routes and entrance areas</td>
<td>24</td>
<td>39.25±7.67</td>
<td>15</td>
<td>75.60±12.70</td>
<td>-10.0</td>
</tr>
<tr>
<td>Equipment</td>
<td>24</td>
<td>43.21±29.24</td>
<td>15</td>
<td>87.93±11.63</td>
<td>-5.629</td>
</tr>
<tr>
<td>Information</td>
<td>24</td>
<td>37.88±24.94</td>
<td>15</td>
<td>74.93±13.54</td>
<td>-6.001</td>
</tr>
<tr>
<td>Locker rooms and showers</td>
<td>24</td>
<td>24.83±15.83</td>
<td>15</td>
<td>54.87±27.17</td>
<td>-3.888</td>
</tr>
<tr>
<td>Hot tubs, whirlpools, saunas, steam rooms</td>
<td>6</td>
<td>56.33±15.63</td>
<td>15</td>
<td>71.80±17.27</td>
<td>-1.392</td>
</tr>
<tr>
<td>Elevators</td>
<td>4</td>
<td>50.75±15.17</td>
<td>12</td>
<td>54.50±19.86</td>
<td>-3.343</td>
</tr>
<tr>
<td>Bathrooms</td>
<td>24</td>
<td>44.54±15.99</td>
<td>15</td>
<td>86.27±8.40</td>
<td>-10.647</td>
</tr>
</tbody>
</table>

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.
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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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