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Quality of public open spaces in Pune city for promoting physical activity

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Abstract---Inactivity is one of the ten leading global causes of death and disability. Despite the common knowledge that exercise or physical activity is helpful, many people are not regularly active. Considering the limited or very low success for individual based approaches in promoting active and healthy lifestyle, environmental interventions is the key to promote physical activity. Physical environment can either obstruct or facilitate physical activity. So, addressing environmental attributes of public open spaces like parks and play grounds associated with promoting physical activity in need of the hour. Hence the present study was undertaken with a purpose to study quality of public open spaces in Pune city for promoting physical activity. For this descriptive survey out of the 7 regions in which Pune city area is divided 2 regions namely, Aundh-Baner and Shivajinagar-Ghole Road were selected. All together there are 11 Public parks and playgrounds in Aundh-Baner region and 17 in Shivajinagar- Ghole road region which were considered as sample for the study. Researcher visited each of these public open spaces mentioned in the regional offices' records but to his surprise out of 28 locations in 6 locations the park or play ground was missing and was not available for physical activity to the public. A teacher made tool was designed in which one question was related to nature of use and rest 22 related to quality of public open spaces. To measure quality of public open spaces following points were considered: Access to facility, financial consideration, environmental quality, amenities, health & hygiene and safety. Visits were planned to all the 22 public open spaces identified and quality of each park / playground was observed and noted down with the help of checklist developed by researcher for the present study and the data was analysed. Most parks and playfields have ample parking space and good public transport facility is available to reach to these places. Due to presence of water bodies, plantation, and lawn environmental features are very attractive. Many parks lack in providing separate track for walking and running. From

health and hygiene point of view also public open spaces in Pune city are up to the mark. But safety and security are a big concern. Although ample lighting is there in the park but lack of security guard and absence of CCTV and First aid facility needs immediate intervention. Based on the observations it can be concluded that overall, the quality of public open spaces in Pune city is good, but lacks in safety measures.

Keywords---public open space, physical activity, quality.

Introduction

Physical activity and physical fitness have been linked with longevity since ancient times. To understand the relationship between physical activity and health, understanding the four evolutionary periods is very important (Blair 1988). The pre-agricultural period up until about 1,000 years ago was characterized by hunting and gathering activities. Exercise levels were high and diet was low in fat. The agricultural period from 1,000 years ago until about the beginning of the nineteenth century was characterized again by reasonably high physical activity levels and relatively low-fat diets, although the fat content increased during this time. The industrial period 1800-1945 saw the development of the industrialized society with the accompanying problems of overcrowding, poor diet, poor public health measures and inadequate medical facilities and care. This trend became reversed in the nuclear/technological period. Improvements in health measures and advances led to lessening of infectious diseases and on the other hand increasing of lifestyle disorders. It is this period that led to increased interest in the knowledge about physical activity (Biddle, & Mutrie 2008).

A growing number of international organizations have produced position statements and policy documents on health-related behaviours including physical activity. In 2004 World Health Organization endorsed a global strategy on diet, physical activity and health indicating that inactivity is not just a problem for developed countries. Global strategy suggests that appropriate regular physical activity is important in prevention of lifestyle diseases. They recommend 30 minutes moderate intensity physical activity daily and suggest that increased physical activity can lead to curtail the cost on health. A number of position statements have emerged addressing the issues of physical activity, exercise and physical fitness. American College of Sports Medicine (1990) recommend minimum 3 to 5 days of exercise of moderate to high intensity for 20 to 60 minutes of aerobic activity through large muscle group activities that are continuous and rhythmic. Centre for Disease Control and Prevention and ACSM further recommended that adults should accumulate 30 minutes or more on most or all days of week (Pate *et al.* 1995). This has been adopted by other countries too. ACSM in 1990 made eight specific recommendations about physical activity and health for children and youth, including the development of appropriate school physical education programs that emphasize lifetime exercise habits, enhanced knowledge about exercise, and behaviour change; the encouragement of a greater role in the development of children's activity levels from parents, community organizations and health care professionals; the adoption of a

scientifically sound approach to fitness testing in schools whereby the emphasis is placed on health related aspects assessed in relation to acceptable criteria rather than normative comparison; and finally award schemes for fitness should encourage individual exercise behaviour and achievement rather than superior athletic ability. Similar statements on children issued by Sports Council UK and Health Education Authority (1992) recommended that more research was required on the development of effective strategies for promoting exercise habits in children.

Studies have shown that individuals who are physically active during adolescence continue to be physically active adults and exhibit a healthy and active lifestyle (Dishman & Dunn, 1988; Kuh & Cooper, 1992). Adolescents who had more experience with physical activity and sports prior to age fifteen had a higher psychological readiness for physical activity at thirty years of age (Hale, 2003). Recent research establishes relationship of physical activity and health and fitness benefits (Biddle & Mutrie, 2008). The onset of physical inactivity and increased sedentary lifestyle during adolescence continue into the adulthood, posing a major challenge to the Physical Educationists & health professionals.

Both academic and popular media have often reported that children today are less active than in previous generations. There are insufficient data at all levels to debate upon this assumption; although personal transport patterns are changing and energy expenditure appears to have declined in children (Durnin, 1992) For example, male teenagers now cycle half the distance they did twenty years ago, while twenty percent of motorized traffic after school hours is involved in transporting children to school. This reflects a dramatic and general decline in children's walking and cycling (DiGiuisppi, Roberts and Li 1997). On the other hand time-use trend data suggests that organized sport participation has increased in young people (Sturm 2005). A shift has also occurred from free discretionary time to more time spent in structured environments such as school and day care. Surveillance of physical activity patterns shows that levels of activity are highest for males, for the young, and for those with higher educational/socioeconomic status.

Inactivity is one of the ten leading global causes of death and disability (WHO 2003). Physical activity in children results in increased self-esteem and perceived physical competence which enables children to cope with mental stress. Regular physical activity improves children's mental health and their academic performance (Demarco, & Sidney, 1990). Despite the common knowledge that exercise or physical activity is helpful, many people are not regularly active. Brook's (1996) study addressed the sedentary population and their reasons for leading an inactive lifestyle; he found that competing priorities, lack of exposure, lack of incentives, and lack of motivation, boredom and psychological barriers were some important barriers.

Considering the limited or very low success for individual based approaches in promoting active and healthy lifestyle, environmental interventions is the key to promote physical activity and is gaining popularity in both research and practice (Sallis et.al., 2006; Richard, Gauvin, & Raine, 2011). Physical environment can either obstruct or facilitate physical activity. many studies have been carried out

addressing environmental attributes of public open spaces like parks and play grounds associated with promoting physical activity.

Pikora et al. (2003) proposed grouping of environmental factors into four categories: functional factors (traffic speed, street and path design), safety factors, neighbourhood aesthetics, and destinations (access to desired locations and amenities). This provides a useful starting point for exploring features of public open spaces that can cause differences in levels of physical activity. Public open spaces like parks can improve the active ambience of the overall neighbourhood environment and they can be place where we can go for walking and / or for a wide variety of fun filled physical activities (Bedimo-Rung, Mowen, & Cohen, 2005; Kaczynski, Potwarka, Smale, & Havitz, 2009; and Sugiyama, Giles-Corti, Summers, Du Toit, Leslie, & Owen, 2013). Many studies have examined how different characteristics of parks influence physical activity participation, including factors such as proximity, design features, and elements of the surrounding environment (Hillsdon, Panter, Foster, & Jones, 2006; Kaczynski, Potwarka, & Saelens, 2008; Sugiyama, et.al. 2010; Koohsari, Karakiewicz, & Kaczynski, 2013; and Kaczynski, et.al. 2014). There are evidences that individual physical activity levels increase as the number or density of accessible exercise amenities increases (Diez Roux et al., 2007; Parks, Housemann, & Brownson, 2003), and that the use of active modes of transport such as walking and cycling increases as distances to neighbourhood amenities decreases (Social Exclusion Unit, 2003). Use of public open spaces is more sensitive to distance than other types of sporting and recreational venues (Giles-Corti and Donovan, 2002).

Presently government has identified some cities and has taken up to develop them as smart cities by making tremendous improvement in infrastructure. Pune is one such city where numerous developments are happening for example 375km footpath being newly developed by spending Rs.375cr, 75km Cycle track developed at a cost of Rs. 100cr. All this done to reduce motorised traffic on road with a goal to promote walking or cycling at least among those 40% people using two-wheelers and 30% people using four-wheeler within the distance of 5km to commute to their work place. Which also will promote physical activity among them. Open Gym, makeover of public parks is another activity that is taken up with a motive to provide opportunity for active lifestyle to public at large but in spite of this many are facing the problems of different lifestyle related disorders. so researcher doubts whether these public open spaces are really ready to cater to the needs of varied population of the city. Does it have all the qualities required for attracting all the strata of the society for promoting active lifestyle. Hence the present study was undertaken with a purpose to study quality of public open spaces in Pune city for promoting physical activity.

Materials and Method

Present study is a descriptive survey of quality of public open spaces in Pune city for promoting physical activity. for this survey out of the 7 regions in which Pune city area is divided 2 regions namely, Aundh-Baner and Shivajinagar-Ghole Road were selected. All together there are 11 Public parks and playgrounds in Aundh-Baner region and 17 in Shivajinagar- Ghole road region which were considered as sample for the study. Researcher visited each of these public open spaces

mentioned in the regional offices' records but to his surprise out of 28 locations in 6 locations either the park or play ground was missing and was not available for physical activity to the public.

A teacher made tool was designed I which one question was related to nature of use and rest 22 related to quality of public open spaces. To measure quality of public open spaces following points were considered: Access to facility, financial consideration, environmental quality, amenities, health & hygiene and safety.

Visits were planned to all the 22 public open spaces identified and quality of each park / playground was observed and noted down with the help of checklist developed by researcher for the present study and the data was analysed.

Results and Discussion

Table No. 1
Nature of use of the Public open spaces

Nature of Use	Number
For Structured Activity	05
For Unstructured Activity	17

From table no. 1 it is clear that out of 22 public open spaces in the selected 2 regions of Pune city 5 are used for participating in structured activities like playing different sport while 17 are used for unstructured activities like walking, children play area etc.

Table No. 2
Facilities present in the public open spaces

Sr. No.	Facility	Yes	No
1	Entry fee charged	3	19
2	Is the place rented out	1	21
3	Sufficient parking area available	17	5
4	Availability of public transport	19	3
5	Presence of water bodies	17	5
6	Plantation	21	1
7	Lawn in good condition	17	5
8	Notice and direction boards	18	4
9	Availability of sports equipment	19	3
10	Entry on lawn permitted	16	6
11	Separate track for running & walking	4	18
12	Space for senior citizens for activities like yoga, laughter yoga	15	7
13	Entry for PET animals permitted	0	22
14	Availability of dustbins	18	4
15	Availability of toilets	15	7
16	Availability of drinking water	15	7

17	Availability of food items	13	9
18	Security guards	11	11
19	CCTV	4	18
20	First aid facility	0	22
21	Sufficient lighting	22	0

Table no. 2 give details about availability of different facilities at the public open spaces. Parks and playfields are opted for as many can't afford heavy fees of fitness centres and sports clubs and as except very few most public places don't charge any entry fees by which maximum people can avail this facility. And it is regularly available as it is not rented out privately which helps to maintain continuity.

As most parks and playfields have ample parking space even people from faraway places can reach with their own vehicles although good public transport facility is available to reach to these places. Due presence of water bodies, plantation, and lawn environmental features are very attractive which can positively influence park visits. Many parks lack in providing separate track for walking and running which might bother people who would visit these places for running, hence authorities need to look into this aspect. From health and hygiene point of view also public open spaces in Pune city are up to the mark. But safety and security are a big concern. Although ample lighting is there in the park but lack of security guard and absence of CCTV and First aid facility needs immediate intervention.

So based on four categories suggested by Pikora et al. (2003) parks in the city are of good quality with respect to functional factors (traffic, street and path design), neighbourhood aesthetics, and destinations (access to desired locations and amenities) but lacks in safety related features. If we want to make up for low success for individual based approaches in promoting active and healthy lifestyle by environmental interventions like providing good quality public open spaces then it is quite possible if authorities work on few shortfalls like providing separate track for walking and running and by taking up safety measures (Sallis et.al., 2006; Richard, Gauvin, & Raine, 2011).

Conclusion

The study was undertaken to evaluate whether public open spaces in Pune city are having the features required to attract people for promoting physical activity? Based on the observations it can be concluded that overall, the quality of public open spaces in Pune city is good, but lacks in safety measures.

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