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**HEALTHY LIFESTYLE OF URBAN RESIDENTS.  
CASE STUDY: SRI PAHANG PUBLIC HOUSING, BANGSAR,  
KUALA LUMPUR, MALAYSIA**

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**Abstract**

The natural ecosystems are increasingly being replaced by urban built-up area due to fast urbanisation. The urban development pressure brought urban areas to the uncontrolled built environment which, in turn, significantly compromises the quality of public spaces and facilities. Furthermore, the urban environment discourages active living. Thus, research on the relationship between urbanisation and physical health is rapidly coming to the force. Urbanisation can have detrimental effects, particularly on physical health, which further attributed to unsustainable urban development. A study was carried out at Sri Pahang Public Housing (Flat), Kuala Lumpur with the aim to investigate the healthy lifestyle among residents and the relationship with the public facilities available at study area for the physical activity. Data was obtained through questionnaire survey. The relationship between healthy lifestyle particularly the level of physical activity and the facilities in the study area was analysed using correlation test. It was found that most of the respondents were physically inactive and their healthy lifestyle can be related to the planning aspects of facilities in the study area.

**Keywords:** exercise, facility, physical activity, quality, safety, satisfaction

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## **INTRODUCTION**

Environmental risk factors played a crucial role in contributing more than 80% of the diseases globally (WHO, 2007), especially in urban areas. This is due to the urban settlements are more polluted with lower environmental quality and health condition as compared to rural settlements (Mohamed Musthafa, Ling, Omar, & Subramaniam, 2015; Ling, Mohamed Musthafa, & Mohamed, 2014). Due to the issue of environmental quality, communicable diseases such as Tuberculosis (TB) has become one of environmental health concerns in Malaysia. The notification rate of TB has increased from 72 per 100,000 population in 2011 to 81 per 100,000 population in 2014 (Abdul Rasam, Shariff, & Dony, 2016). Recently, non-communicable diseases (NCD) has also become the latest health concern in Malaysian urban areas. NCD was always associated with unhealthy lifestyle especially physical inactivity (Ling, Mohamed Musthafa, & Omar 2015; Mohamed Musthafa et al., 2015). The urban environment discourages active living due to lack of quality lighting, lack of access to open space, sports and recreational facilities, low quality of houses and neighbourhoods, and poor aesthetics (Edwards & Tsouros, 2006).

Physical inactivity, combined with poor diet, contributed to the unhealthy lifestyle of urban dwellers. Physical inactivity has been identified as the fourth leading risk factor for global mortality (6% of deaths globally) (WHO, 2010), and it increases the risk of NCDs. In Malaysia, 71% of death are NCD related, particularly cardiovascular diseases (CVD), diabetes, cancer, and chronic respiratory diseases. Malaysia has also recorded 17% of the risk of premature death from target NCDs (WHO, 2017a). Furthermore, from 1996 to 2006, Malaysia saw a dramatic increase in the prevalence of behaviour-linked diseases, including a 43% increase in hypertension, 88% increase in diabetes and 250% increase in obesity. The alarming rise of NCDs in Malaysia is largely due to poor lifestyle choices which include unhealthy behaviours regarding food, physical activity, sleep and peace of mind (Anusha, 2016). Only 40% Malaysians adopted healthy lifestyle by making sports as a culture (Bernama, 2016). These factors affected the NCD and affected by lifestyle choices that are often influenced by economic development and urban living (WHO, 2017b).

Urban area, particularly the study area (Sri Pahang Public Housing) was developed with limited public facilities that encourage active lifestyle (physical exercise) among residents. This might affect the healthy lifestyle of residents. Thus, a study was carried out with the aim to investigate the healthy lifestyle among residents and the relationship with the public facilities available at study area for the conduct of physical activity.

## **LITERATURE REVIEW**

Urban areas attract people through the provision of job opportunities, urban services and urban lifestyles. Due to the high rate of in-migration, urban areas are

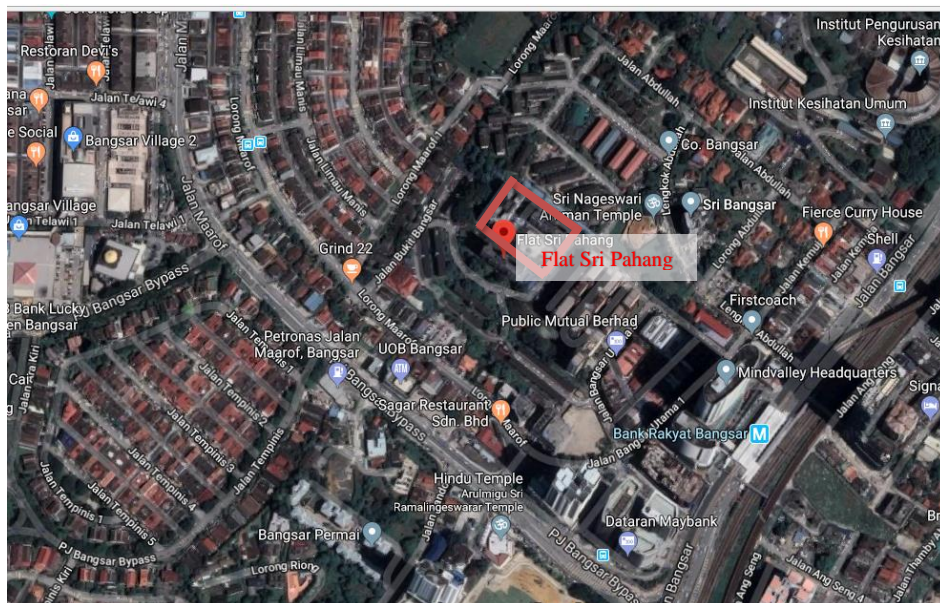
pressured to provide more houses, more retail and other facilities, more roads to accommodate the increasing traffic volume, and more waste disposal or treatment facilities for the increasing waste volume. All of these demands pressure urban areas to increase their densities as well as their size and reduce the green fields. The natural ecosystems are increasingly being replaced by built-up area due to fast urbanisation (Li, Wang, Paulussen, & Liu, 2005). Rapid urbanisation may also compromise the quality of public spaces. As urban density increases, the mean wind speed exponentially decreases (Zainol, Abdul Razak, Ali, Qi, & Zaki, 2017). It will also affect the thermal comfort among pedestrians, resulting in less people walking as pedestrian., and hence, increasing the level of physical activity. Thus, urbanisation can have detrimental effects, particularly on physical health, which further attributed to unsustainable urban development (Fisher, Andersen, Loft, & Pedersen, 2017).

Globally, research have been carried out in relation to urban land use and activities, healthy lifestyle (especially physical activity), and health/well-being (Richardson, Pearce, Mitchell, & Kingham, 2013; Soga, et al., 2017; Lau, Goodloe, Eatman-Williams, Dudovitz, & Wentz, 2018; Sarkar & Webster, 2017). In New Zealand, for instance, it was found that neighbourhood design and land use pattern affect health where residents of the greenest urban neighbourhoods had significantly lower risks of having poor mental health than those in the least green areas, suggesting a dose-response relationship (Richardson et al., 2013). In fact, individuals residing in neighbourhoods with more than 15% green space coverage had similarly reduced CVD risks. Meanwhile, the least green neighbourhoods have certain other characteristics (*e.g.*, high population density, or urban centres) that also relate to CVD risk (Richardson et al., 2013). According to Schram-Bijkerk, Otte, Dirven and Breure (2018), urban gardens provide opportunities for physical activity and allow people to consume home grown fruit and vegetables. Urban gardens may also reduce stress levels of gardeners and improve social cohesion. In this way, they can help to prevent health problems. Also, research in Japan revealed that allotment gardeners, as compared to non-gardeners, reported better perceived general health, subjective health complaints, mental health and social cohesion (Soga et al., 2017).

## **RESEARCH METHOD**

### **Study Area**

Flat Sri Pahang (Public Housing), is located at Bangsar within the administrative boundary of Kuala Lumpur City Hall. It consists of three blocks of apartment with a total of 768 units of apartment. The main surrounding land uses are commerce and residential (Figure 1). The study area is well connected with roads and public transportation networks. The study area is directly connected via Jalan Maarof and Jalan Bangsar. It is also located adjacent to the Bangsar LRT Station.



**Figure 1:** Location of study area (Flat Sri Pahang)

### Questionnaire Survey and Sampling of Respondents

The level of physical activity and evaluation of facilities for physical activity were identified through a questionnaire survey. A total of 263 respondents (at 95% confidence level) were selected from the total population of 3,840 in the study area by using systematic, simple random sampling method. The samples covered both male and female respondents, different ethnic groups, and different age groups. The samples were equally distributed among the three blocks of building in the study area (Table 1 and Table 2).

**Table 1:** Distribution of samples

Block	Estimated Population	Sample size	%
1	1,280	88	33.4
2	1,280	88	33.4
3	1,280	87	33.2
Total	3,840	263	100.0

Note: 5 or 6 samples for every floor of the 3 blocks of flat

**Table 2:** Background of respondents

<b>Variables</b>	<b>Percentage (%)</b>
Gender	
Male	53.2
Female	46.8
Ethnicity	
Malay	80.6
Indian	14.4
Chinese	4.6
Others	0.4
Age	
< 20 years old	22.8
20-29 years old	22.1
30-39 years old	18.6
40-49 years old	14.8
50-59 years old	12.5
> 59 years old	9.9

### **Method of Analysis**

Level of physical activity was measured based on frequency and duration. The level of facilities provided for conducting physical activities was evaluated based on respondents' satisfaction in terms of quality, cleanliness, adequacy and safety.

The data were analysed using Frequency, Cross-tabulation, Chi-square and Correlation tests available in the Statistical Package for Social Science (SPSS) software. The purpose of the analysis is to find out the level of physical activity among residents in the study area and the relationship with the facilities for physical activities (exercise) and demographic background of respondents.

## **RESULTS AND FINDINGS**

### **Healthy Lifestyle and Level of Physical Activity**

The results in Table 3 show that the majority of respondents were less active in carrying out their physical exercise with half of them did not exercise regularly. Only 7.6% of the respondents exercise more than three times a week.

Most respondents spent their spare time watching TV and those who were carrying out exercise more than 3 times in a week only consist of 7.6%. Most of the respondents were spending their free time by watching TV and access to the internet, especially for those who were less frequent in carrying out their exercise (Table 5). This reflects a scenario of physically inactive and less healthy lifestyle among respondents in the study area. However, the duration of each session of exercise was considered adequate with more than 30 minutes for most of the respondents (>60%). There were only 37.6% of respondents carry out their exercise less than 30 minutes (Table 4). Besides, by looking on the type of

exercise carried out by respondents, it showed that most of the respondents (> 50%) were engaged in the more vigorous physical activity, which were jogging and sports activities (Table 6). There were around one-quarter of respondents engaged in moderate or light physical activity, *i.e.* walking.

**Table 3:** Frequency of exercise

Per week	Number of respondents	Percentage (%)
Not regular	135	51.3
1	44	16.7
2	36	13.7
3	28	10.6
> 3	20	7.6
Total	263	100.00

**Table 4:** Duration of exercise

Venue	Frequency	%
< 0.5 hr	99	37.6
0.5 – 1 hr	102	38.8
1 – 2 hr	48	18.3
>2 hr	14	5.3
Total	263	100.0

**Table 5:** Frequency of exercise and types of most frequent free time activity

Frequency per week	Most frequent activity during free time (% of respondents)				Total
	Food stalls / restaurant	Watching TV / using internet	Exercise	Others	
<b>Not regular</b>	17.7	58.6	1.5	22.2	100.0
<b>1</b>	13.8	59.0	15.9	11.3	100.0
<b>2</b>	8.4	61.1	25.0	5.5	100.0
<b>3</b>	7.2	50.0	32.1	10.7	100.0
<b>&gt; 3</b>	0.0	48.0	52.0	0.0	100.0

**Table 6:** Type of exercise

Type	Number of respondents	Percentage (%)
Walking	71	27.0
Cycling	15	5.7
Jogging	68	25.9
Sports	74	28.1
Others	35	13.3
Total	263	100.0

Table 7 shows respondents frequency of carrying out exercise and BMI. It is found that obese group was having the highest percentage of no regular exercise (67.3%). This is followed by the overweight group with 59.0% of

respondents were not regularly carrying their exercises. Those who were categorised as normal weight, having the smallest percentage for “no regular exercise”. This indicates that physically inactive can be associated with overweight and obese.

**Table 7:** Frequency of exercise and body mass index (BMI)

Frequency per week	Body Mass Index (% of respondents)			
	Underweight (<18.5)	Normal weight (18.5 – 24.9)	Overweight (25.0-29.9)	Obese (>30)
<b>Not regular</b>	48.4	39.0	59.0	67.3
<b>1</b>	21.2	18.0	17.8	9.6
<b>2</b>	27.2	17.1	10.9	1.9
<b>3</b>	0.0	14.5	8.2	13.4
<b>&gt; 3</b>	3.0	11.4	4.1	7.6
<b>Total</b>	100.0	100.0	100.0	100.0

Another aspect of healthy lifestyle is the cigarette smoking habit of respondents. Only 45.2% of respondents could be categorised as the non-smokers, while 27% were active smoker, 25% passive smoker and 3% ex-smoker (Table 8).

**Table 10:** Adequacy of facilities for physical activity by type of exercise

Adequacy	Type of exercise by respondents (%)				
	Walking	Jogging	Cycling	Sports	Others
Seriously not adequate	38.0	50.3	46.6	33.7	37.1
Not adequate	45.0	30.8	13.3	27.0	37.1
Neutral	5.6	11.7	13.3	13.7	14.4
Adequate	11.2	5.8	26.6	21.6	11.4
More than adequate	0.0	1.4	0.0	4.0	0.0
<b>Total</b>	100.0	100.0	100.0	100.0	100.0

**Table 8:** Cigarette smoking experience

	Number of respondents	Percentage (%)
Active smoker	70	26.6
Passive smoker	66	25.1
Ex-smoker	8	3.0
Non smoker	119	45.2
<b>Total</b>	263	100.00

**Table 9:** Venue of exercise

Venue	Frequency	%
Internal spaces	64	24.3
Sport centre	24	9.1
Gymnasium	19	7.2
Parks	71	27.0
Roadside	14	5.3
Others	71	27.0
Total	263	100.0

**Table 10:** Adequacy of facilities for physical activity by type of exercise

Adequacy	Type of exercise by respondents (%)				
	Walking	Jogging	Cycling	Sports	Others
Seriously not adequate	38.0	50.3	46.6	33.7	37.1
Not adequate	45.0	30.8	13.3	27.0	37.1
Neutral	5.6	11.7	13.3	13.7	14.4
Adequate	11.2	5.8	26.6	21.6	11.4
More than adequate	0.0	1.4	0.0	4.0	0.0
Total	100.0	100.0	100.0	100.0	100.0

### Planning Aspects and Healthy Lifestyle

Majority of the respondents (more than 70%) carried out their exercise (physical activity) outside of the study area (Table 9). Only 24.3% of respondents carried out their exercise at venues located within the boundary of the study area (the flats), such as at the playground, badminton court and futsal court. Most of the respondents felt that facilities provided were inadequate (Table 10). Similarly, most of the respondents also were unsatisfied with the quality of facilities provided for conducting physical activity (Table 11). Thus, it can be inferred that the quality of facilities provided affects the level of physical exercise by the residents.

**Table 11:** Quality of facilities for physical activity located in the study area, by type of exercise

Quality	Type of exercise by respondents (%)				
	Walking	Jogging	Cycling	Sports	Others
Strongly not satisfied	38.0	38.2	26.6	37.8	34.2
Not satisfied	36.6	30.8	26.6	25.6	34.2
Neutral	11.4	14.9	20.0	14.8	17.1
Satisfied	12.6	13.2	20.0	17.5	14.5
Strongly Satisfied	1.4	2.9	6.8	4.3	0.0
Total	100.0	100.0	100.0	100.0	100.0

In terms of respondents' satisfaction, Table 12 shows most respondents from all categories of exercise frequency felt unsatisfied the quality of facilities



provided in the study area. Similarly, majority of them were also unsatisfied with the safety of the facilities (Table 13).

**Table 12:** Quality of facilities for physical activity located in the study area, by frequency of exercise

Quality	Frequency of exercise (%)				
	Not regular	1/week	2/week	3/week	>3/week
Strongly not satisfied	36.4	38.8	27.7	39.4	50.0
Not satisfied	35.5	31.8	25.0	25.0	20.0
Neutral	13.3	13.6	22.2	17.8	5.0
Satisfied	14.8	6.8	19.4	17.8	20.0
Strongly satisfied	0.0	9.0	5.7	0.0	5.0
Total	100.0	100.0	100.0	100.0	100.0

**Table 13:** Safety of facilities for physical activity within the boundary, by frequency of exercise

Quality	Frequency of exercise (%)				
	Not regular	1/week	2/week	3/week	>3/week
Strongly not satisfied	10.4	20.5	11.1	14.3	25.0
Not satisfied	28.9	25.0	38.9	21.4	45.0
Neutral	19.3	15.9	27.8	17.9	0.0
Satisfied	40.0	36.4	16.7	46.4	30.0
Strongly satisfied	1.5	2.3	5.6	0.0	0.0
Total	100.0	100.0	100.0	100.0	100.0

Correlation test (Table 14) on the relationship between planning aspects (facility provision) and physical activity among respondents showed weak and insignificant relationship even at the 0.05 level for the all the aspects. The relationship between safety aspect and cleanliness with the level of physical activity was negative. It means, there was a higher percentage of respondents who were more active felt public facilities in the study area were unsafe and with poor cleanliness.

**Table 14:** Correlation between duration & frequency of exercise with the satisfaction of the facilities for physical activity

Quality		Duration	Frequency
		r	-0.024
	sig. value	0.698	0.530
Cleanliness	r	-0.73	-0.040
	sig. value	0.241	0.522
Adequacy	r	-0.056	0.037
	sig. value	0.361	0.548

Safety	r	-0.110	-0.104
	sig. value	0.075	0.093

### Demographic Background and Healthy Lifestyle

The level of physical activity conducted by respondents, as measured in frequency of exercise, was found to be significantly associated with gender at 0.01 level (Table 15). The analysis showed that female was less active (less frequent of exercise) as compared to male. Similarly, the correlation test also indicates a significant relationship between age and frequency of exercise at 0.01 level (Table 16). The relationship was negative and weakly correlated with the r value of -0.328. This means that that as one is getting older, one will conduct less physical exercise.

**Table 15:** Frequency of exercise by gender

Gender	Frequency of exercise (%)					Total
	Not regular	1/week	2/week	3/week	>3/week	
Male	41.4	15.7	19.3	12.9	10.7	100.0
Female	62.6	17.9	7.3	8.1	4.1	100.0

Note: Pearson Chi-square value = 17.936 ; sig. value = 0.001 (sig. at 0.01 level)

**Table 16:** Frequency of exercise by age group

Age	Frequency of exercise by respondents (no. of respondents)					Total
	Not regular	1/week	2/week	3/week	>3/week	
13-19 years old	14	17	15	9	5	60
20-29 years old	24	7	10	7	8	56
30-39 years old	28	11	4	3	3	49
40-49 years old	25	6	3	4	1	39
50-59 years old	25	2	2	4	0	33
> 59 years old	19	1	2	1	3	26
Total	135	44	36	28	20	263

Note: Spearman correlation r value = -0.328 ; sig. value = 0.000 (sig. at 0.01 level)

### CONCLUSION

To conclude, this study found that most of the respondents in the study area were practicing less healthy lifestyle. Most of them were less active in carrying out physical exercise. Furthermore, most of them like to spend their free time by watching TV and accessing the internet. Besides, there were only 45% of respondents can be categorized as the non-smokers. There were one-quarter of respondents were active smokers, and another one-quarter of respondents were passive smokers. In terms of exercising, the male was more active than female, and younger generation was more active than the elderly. By looking at the aspect of public facilities for physical activity, the study found that majority of the respondents were unsatisfied with the quality, safety and cleanliness of the

facilities. This could be one of the reasons why majority of them conduct their physical exercises at venues outside of the study area.

Further study should be carried out to extend the investigation of urbanisation, planning and design aspects in relation to the healthy lifestyle, especially the physical activities of urban dwellers.

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