THE ASSOCIATION OF URBAN LIFESTYLE WITH RESPIRATORY INFECTION IN PETALING DISTRICT, SELANGOR.

ABSTRACT

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In recent years, a dramatic increase in the prevalence of behaviour-linked diseases among Malaysia citizens has been observed due to the increasing of industrial activities. However, the statistical relationship between urban lifestyle and respiratory infection is yet to be identified. This study aims to identify the relationship between respiratory infection and illnesses with daily urban lifestyle in Petaling District, Selangor. A cross-sectional study conducted from November to December 2020 on residents lived in Petaling District. Stratified random sampling on 200 respondents in three selected cities in Petaling District; Petaling Jaya city, Subang Jaya city and Shah Alam city were conducted through electronic form survey. The socio-demographic profile findings show that most respondents are young women (average age 32.9 ± 7.73 years, between 26 to 35 years), married, working in the public sectors and obtaining higher education. A total of 200 answered questionnaire bring about 51.9% response rate. There is a relationship between urban lifestyle with respiratory infection with a weak positive correlation coefficient ($r=0.06$, $p = 0.35$). There are proven strong positive correlations between age, employment status, frequency of going outside and air purification with urban lifestyle and respiratory infection

Keywords: *Behaviour-linked diseases, urban lifestyle, respiratory infection, cross-sectional study, questionnaire survey.*

4.1 INTRODUCTION

The abundance of facilities in urban areas in terms of transportation, food availability, health facilities, recreation and medical facilities allow the urban dwellers to have a healthy lifestyle. However, the high population density carries a higher risk of pollution, infection and stress that can trigger a series of health problems in which respiratory infections are risks. Ageing, urbanization and unhealthy lifestyle are identified as the health risk factors. The emergence of communicable disease in urban areas, especially in poor housing areas, is due to increased population density where people live close to each other, poor sanitation and hygiene, and unorganized waste disposal.

Causative agents of respiratory infections are viral and bacterial organisms. Respiratory infection may interfere with normal breathing as it affects the upper and lower respiratory system. Acute pharyngitis, acute ear infection and cold are common respiratory infections, and more severe respiratory infection may take the form of diseases such as SARS, MERS-Cov, and Covid-19. In urban environments, airborne particles' presence comes mainly from road dust, soil resuspension, waste incinerators, and coal-burning and vehicle combustion. These particles provide an attachment site for virus and bacteria that can further cause respiratory infection. Asthma and Chronic Obstructive Pulmonary Disease (COPD) are the major form of pulmonary diseases that urban area residents usually experience.

The high density of population can trigger health problem such as respiratory infections. The factor of rapid increase on population density is due to the increase in several industrial activities and economic developments that released the emission of hazardous gases such as carbon monoxide (CO), nitrogen oxide (NO2), and sulphur dioxide (SO2). These gases are potential to poses the risk of respiratory infections towards urban area residents. Beside the factor of air pollutants and virus or bacteria, respiratory infection among people who lives in urban areas can be related to two factors which are from their lifestyle (eating, physical activity, smoking, the use of over counter drugs, supplement, traditional medicine, herbal product) and also social-economic and medical background (age, type of employment, income level, ethnic group, other types of chronic/non-communicable disease (NCD), history of family members with a chronic respiratory infection (RI) (Mansor, & Harun, 2014; Rahman et al., 2017).

The lifestyle especially the physical inactivity has been identified as the fourth leading risk factor global mortality (6% of deaths globally) (WHO, 2010) and it increases the risk of non-communicable diseases (NCDs). Recently, Malaysia saw a dramatic increase in the prevalence of behavior-linked diseases, including 43% increase in hypertension, 88% increase in diabetes and 25% increase in obesity (Department of Statistics Malaysia, 2017). However, the statistical relationship between urban lifestyle and respiratory infection is yet to be identified for Malaysia in general and Selangor, which is one of the most urbanized regions.

Based on the latest observation on the Malaysian Covid-19 cases (Bedi, 2020; Kaos, 2020), most of the death cases as sufferings with chronic or non-communicable disease. It shows a possible higher risk of respiratory infection i.e., Covid-19 among the chronic/non-communicable disease patients. Thus, the indirect relationship between healthy lifestyle and respiratory infection is necessary to be studied.

This research is conducted to identify the factors that increase the risks of respiratory infection and the prevalence of respiratory infections in different environment areas with different urban lifestyles. A three-part questionnaire (on socio-demographic, Healthy Lifestyle and respiratory infection) will be distributed randomly to respondent in Petaling, Selangor. Hypothetically, areas with a high density of population, with lack of healthy lifestyle and also poor sanitation and hygiene environment will pose a higher risk of respiratory infection.

4.2 METHODOLOGY

4.2.1 Study on the association between urban lifestyle with a respiratory infection

The study area on the District of Petaling with the focus on Petaling Jaya City, Subang Jaya city, and Shah Alam city would be prioritised and selected as study areas to study the urban lifestyle and respiratory infection. These cities are selected as the most developed and dense areas in Selangor, highly exposed to pollution and health risk.

The study was designed using a descriptive cross-section study using quantitative data analysis techniques. Descriptive methods are suitable for survey research methods because they can be expressed and described using questionnaires (Chua, 2014). Descriptive cross-sectional studies are suitable for testing individuals' attitudes, beliefs, opinions, and behaviours (Creswell, 2008). Quantitative research methods are selected to determine the relationship between the study variables, the respiratory infection and urban lifestyle by Petaling citizens.

The instrument used in this study is a questionnaire. The questionnaire items are developed in both ways by reviewing previous studies and searching for information on the urban lifestyle with respiratory infection in the website. The study instrument used is a self-administered questionnaire distributed to respondents in bilingual (Malay and English) before being distributed to the study setting. A questionnaire survey is divided into three parts: socio-demographics, daily urban lifestyle, and medical history on the respiratory infection. The detailed division on the instruments is shown in table 1.

Table 1: The division on questionnaire survey.

Instrument	Adaptation or Adoption
Section A: Socio-demographic factors	
Section B : Knowledge on daily urban lifestyle (Dichotomous questions)	(Yangiao Wen et al., 2015) (Lv et al., 2011) and adopt by researcher.
Section C : Past or current illnesses regarding respiratory illnesses or respiratory infection (Likert questions)	(WHO, 2005), (Kumar et al., 2018) and adopt by researcher.

4.2.2 Selection Criteria of Respondent

The sample selection criteria in this study are those who live within the Petaling district city and the age range group of the respondents between 18 and 65. Table 2 describes the selection criteria of the sample. .

Table 2: Selection criteria of the sample

Inclusion Criteria	Exclusion Criteria
A respondent who live in urban area in Petaling District, Selangor (cities of Shah Alam, Subang Jaya and Petaling Jaya).	A respondent who are working but no living in Petaling district
A respondent who live in the main cities for more than five years.	A respondent who has chronic illnesses (e.g: Heart diseases, cancer etc.)
A respondent who are healthy and aged within 18 – 65 years old.	

4.2.3 Respondent Sampling Collection

The study's sample size determined based on a calculation by (Krejcie & Morgan, 1970) and referred to sample size calculator, Raosoft Website (2004).

$$s = \frac{X^2NP(1-P)}{d^2(N-1) + X^2P(1-P)}$$

s = sample size

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841)

N = the population size (2,894,525)

P = the population proportion (assumed to be 0.5 since this would provide the maximum sample size)

d^2 = the degree of accuracy expressed as a proportion (0.05)

$$s = \frac{(3.841)(2,894,525)(0.5)(1-0.5)}{(0.05)^2(2,894,525-1) + (3.841)(0.5)(1-0.5)}$$

$s = 385.06$

$\therefore s = 385$

The number of population of Petaling Jaya, Subang Jaya and Shah Alam is estimated around 2,894,525. After using Krejcie and Morgan table based on population, the number of questionnaires needed to be collected is 385. This survey was conducted to identify the relationship between respiratory infection or illnesses with daily urban lifestyle. A total of 385 samples will be carried out with 90-95% confidence for the Petaling District's three selected cities. The questionnaire was distributed to residents in Petaling District to collect data on the respondents' demographic and background characteristics about urban lifestyle. Socio-demographic features, healthy lifestyle and past or current respiratory infection are key to the information collected.

The survey is distributed through stratified random sampling covering three areas in every city, i.e., high-cost housing, medium-cost housing and low cost (affordable) housing areas. The 'stratified' refers to respondents' total separation (no overlapping) for the three areas for selected cities. The rationale of having a stratified random sampling is to cover general residents from the different socioeconomic background by referring to their housing area or type of residential area.

4.2.4 Response Rate

The questionnaire was distributed to the Petaling citizens, around three selected areas: Petaling Jaya city, Subang Jaya city and Shah Alam city. This cross-sectional field study took place for two months between November and December 2020. Using a self-administered questionnaire. 385 questionnaire were distributed, but only 200 turn up by the respondents who agreed to participate in this study. The questionnaire was distributed to the residents in three selected cities to collect data on the respondent's demographic and background characteristics that might be associated with respiratory infection exposure and urban lifestyle.

During the study, some issues arose among them, which was the respondent's difficulty to cooperate because they were busy carrying out daily activities and chasing time. The study was conducted during the Conditional Movement Control Order (CMCO) and has caused limitations in the movement to the study site. To complete the survey data collection, the researcher had taken a range of solution steps, which involves delivering an online questionnaire as electronic form into the study area through social media platforms and design

hardcopy material on poster and pamphlet. Fifty pieces of the poster were attached to public areas, including restaurants, bulletin boards in residential areas, and convenience stores. Other than that, 900 copies of the pamphlet were distributed and offered to the selected three cities. However, due to the time study limitation, only 51.9% of the study sample was collected. Relevant information obtained includes socio-demographic characteristics, daily urban lifestyle and past or current on the respiratory infection.

4.2.5 Reliability Test

Validity means the extent to which the accuracy of a measuring instrument in performing its measurement function. The validity has to do with what the instrument measures and how well it does (Mohajan, 2017). The validity of the instrument is very important to maintain the accuracy of the questionnaire from being exposed to defects. The validity of the content of the questionnaire was adapted by the past studies where the daily urban lifestyle are referred to the studies conducted by (Yangiao Wen et al., 2015) and (Lv et al., 2011), while respiratory infection content are adapted from (WHO, 2005) and (Kumar et al., 2018).

After the validity approved, the reliability of the questionnaire was conducted in Petaling District, Selangor. In this phase, ten respondents from the study setting, which is from three selected cities are chosen to interpret the questionnaire's reliability. The pilot study was conducted to provide feedback on the relevance question, level of understanding of the subject, language and timeframe to complete a set of questionnaire forms. The test is intended to check the reliability of the variable constructs. The pilot study's internal consistency was tested using Cronbach Alpha in IBM Statistical Program for Social Sciences (SPSS) Statistics (Version 24). Hulin, Netemeyer and Cudeck (2001) stated that a generally accepted rule for Cronbach Alpha is 0.6 – 0.7, which indicates an acceptable level of reliability, and 0.8 or greater a very good level. However, values higher than 0.95 are not necessarily good, since they might indicate redundancy. Cronbach Alpha is used to guide whether to drop or update items that lower the Cronbach Alpha (α) coefficient.

A pilot test of a questionnaire was conducted on ten respondents who live in three selected cities located around Petaling District, Selangor. Table 3 shows the Cronbach Alpha results for daily urban lifestyle questions and past or current respiratory infection. It was found that this study is at an acceptable level for past or current illnesses on respiratory infection with

value 0.695 and at a great level for a daily urban lifestyle with value 0.808 (Appendix D). This study's internal consistency is between 0.6 and 0.8, which indicates an acceptable level and great level (Hulin, Netemeyer and Cudeck 2001; Ursachi et al., 2015). Therefore, the items in the question of respiratory infection and urban lifestyle on Petaling district residents of this study can be used to collect and interpret data.

Table 3: *Cronbach Alpha* (α) for Pilot Study among 10 respondents among Petaling citizens.

Scale	No. of items in each scale	Cronbach's Alpha Coefficient n= 10
Daily urban lifestyle	18	0.808
Past or current illness regarding respiratory infection or respiratory illnesses	7	0.695

4.2.6 Data analysis

The study's data was analysed using IBM Statistical Program for Social Sciences (SPSS) Statistics Version 24.0 for Windows. All respondents' socio-demographic information such as age, gender, education level, occupation and household income were determined. The data on respiratory infection and urban lifestyle of Petaling district residents were carried out with descriptive statistical analyses (mean, median, standard deviation, frequency and percentage distribution). The data follow a test of normality (Kolmogorov-Smirnov, skewness value and kurtosis).

To answer the objectives and prove the hypothesis in this research, the statistical inference used were Spearman's rho test because the data distribution is not distributed normally. This test is used to determine the relationship between respondents' daily lifestyle with past or current respiratory illnesses. The Chi-square test was used to determine the relationship between socio-demographic characteristics and respondents' daily lifestyle with past or current respiratory infection.

4.3 RESULT AND DISCUSSION

4.3.1 Sociodemographic profile of respondents

The socio-demographic profile of the respondents is shown in Table 4. Female respondents exceeded the number of male respondents in this study. Female respondents constituted 59.4% (n=129) of the response against 32.7% (n=71) male respondents. The age of the respondents who participated in this study ranged from 18 to 65 years. In term of age distribution, 32% (n=65) of the surveyed respondents were between 26 – 35 years old against those residents of Petaling District were 18 – 25 (28%, n=56), 36 – 45 (16%, n=32), 46 – 55 (13.5%, n=27) and 56 – 65 (10%, n=20). A total of 85.3% (n=185) had completed their tertiary education or higher education, followed by 6.9% (n=15) completed their education at the secondary level, and none completed their primary school education.

The majority of respondents in this study consisted of government sector (28%, n=61) followed by private sector (24.8%, n=54), student (14.7%, n=32), self-employed (11.5, n=25), while 6% (n=13) of respondents are retiree and 3.7% (n=8) are housewife. The study also captured information on the marital status of respondents where 52.1% (n=113) majority were married, 39% (n=85) and about 1% (n=2) belong to the category of others. According to the household income statistics, respondents who are low-income consumers involved 37.6% (n=82) of the sample. Next, the middle-income respondents of 30.4% (n=66) and the high-income respondents are 24% (n=52).

According to the survey, out of 200 respondents, majority of the residents with 62.2% (n=135) are prefer to travel to work using their car, followed by motorcycle user 13.8% (n=30) and public transport user 5.5% (n=12). Other 5.5% (n=12) of the respondents prefer to walk to their workplaces, use e-hailing services, or drive to the station before taking public transport. Meanwhile, about 5.1% (n=10) of the respondent are majorly working from home during the Conditional Movement Control Order (CMCO). In terms of frequency going outside their house, 64.5% (n=140) of the respondents mainly going outside every day, followed by 12.4% (n=27) who went out every one to two days, 2.8% (n=6) once a week, 1.4% (n=3) once in a month and 2.0% (n=4) for others. The daily movement among respondents within the Control Movement Control Order (CMCO) period is frequent as the respondent prefers to go outside every day. This interprets the implementation of CMCO as not affecting the urban area residents due to their pack schedule daily. Based on the survey collected, about 65.9% (n=143)

of the respondent does not use the air purification devices in their home to maintain the indoor air quality. Only 26.3% (n=57) of the residents used air purification devices in their house.

Table 4: Sociodemographic profile of respondents

Characteristic	n (N=200)	Percentage (%)
Age		
18-25	56	28.0
26-35	65	32.5
36-45	32	16.0
46-55	27	13.5
56-65	20	10.0
Gender		
Female	129	59.4
Male	71	32.7
Educational Level		
Primary school	0	0
Secondary school	15	6.9
University/College/Institution	185	85.3
Employment Status		
Student	32	14.7
Housewife	8	3.7
Self-employed	25	11.5
Government sector	61	28.0
Private sector	54	24.8
Retiree	13	6.0
Others	6	2.8
Marital Status		
Single	85	39.0
Married	113	52.1
Others	2	1.0
Monthly Income		
Less than RM4000	82	37.6
RM4000 – RM8500	66	30.4
More than RM8500	52	24.0
Travel to work		
By walking	4	1.8
By public transport	12	5.5
By motorcycle	30	13.8
By private car	135	62.2
By taxi or e-hailing services	5	2.3
By driving to the station before taking public transport	3	1.4
Others	10	5.1

Table 4 (continuous heading)

Characteristics	n (N=200)	Percentage (%)
Frequency going outside their house		
Daily	140	64.5
Every one to two days	27	12.4
Once a week	19	8.8
Once in fortnight	6	2.8
Once a month	3	1.4
Others	4	2.0
Air purification devices		
Yes	57	26.3
No	143	65.9

Figure 1 display the location of the housing area among resident in Petaling District. The survey findings showed that most of the respondents, 35%, live in the area near the main road or highway, followed by 22% of respondents' residential area near the shopping mall, 19% near to public transport, and 16% of the housing industrial area. Meanwhile, the other 8% were not practically included within the urbanised development area. The finding from this survey indicates the similarity with the research conducted by (Chen, Zhou, Wang, & Hu, 2018), private vehicles with its percentages of significance at 27.27% are considered to be a key driving force in increasing PM2.5 concentration which will promote the risk of population exposure. Based on the survey obtained, about 35% of the respondents' residential area located near the main road or highway. Therefore, exposure to air pollutions is higher and could trigger individuals' health problems.

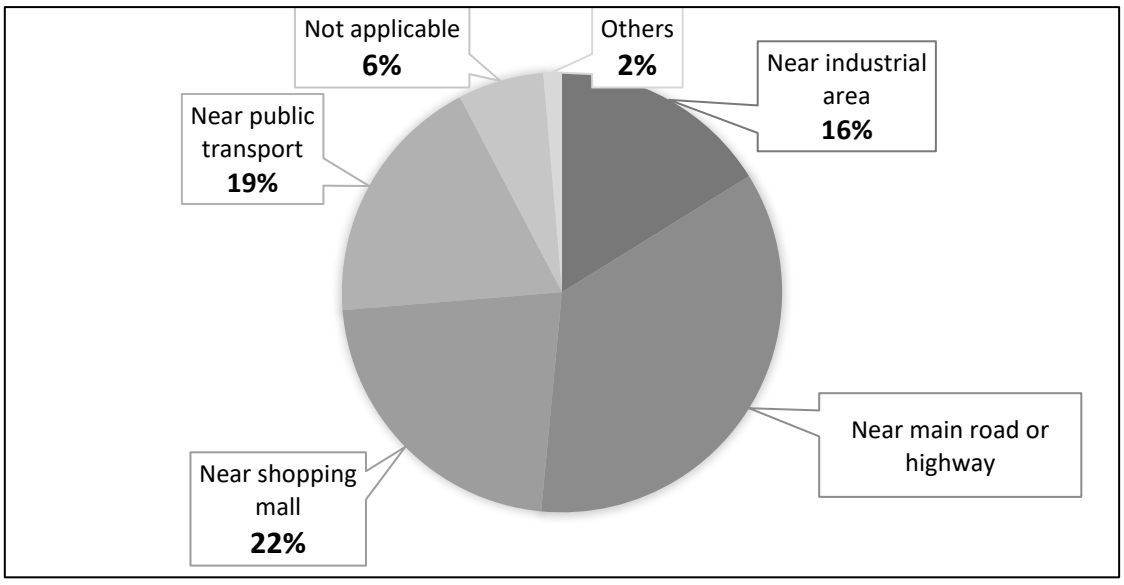

Figure 1: The location area of respondent housing area

Figure 2 show the daily activities that were practised by urban residents other than studying or working routine. Based on the survey obtained, most of the respondent preferably going outside to buy essential items (29%), followed by socialising with family and friends (22%), eating out (22%), doing sports or leisure activities (17%) and other activities (10%), which may include gardening or cleaning the lawn. Based on the studies ("Spatial and Temporal Dynamics in Air Pollution Exposure Assessment," 2018) stated that individual exposure to air pollution should be defined as the real concentration of air pollutant breathed in by the individual at a particular time and place. It not only arises from the pollutant concentration in the environment to which the individual is exposed but also needs to be determined by the amount of time spent in that environment. Hence, these findings only elaborate on the daily activity routine commonly conducted by urban residents without significantly showing the respondents' inhaled pollutants.

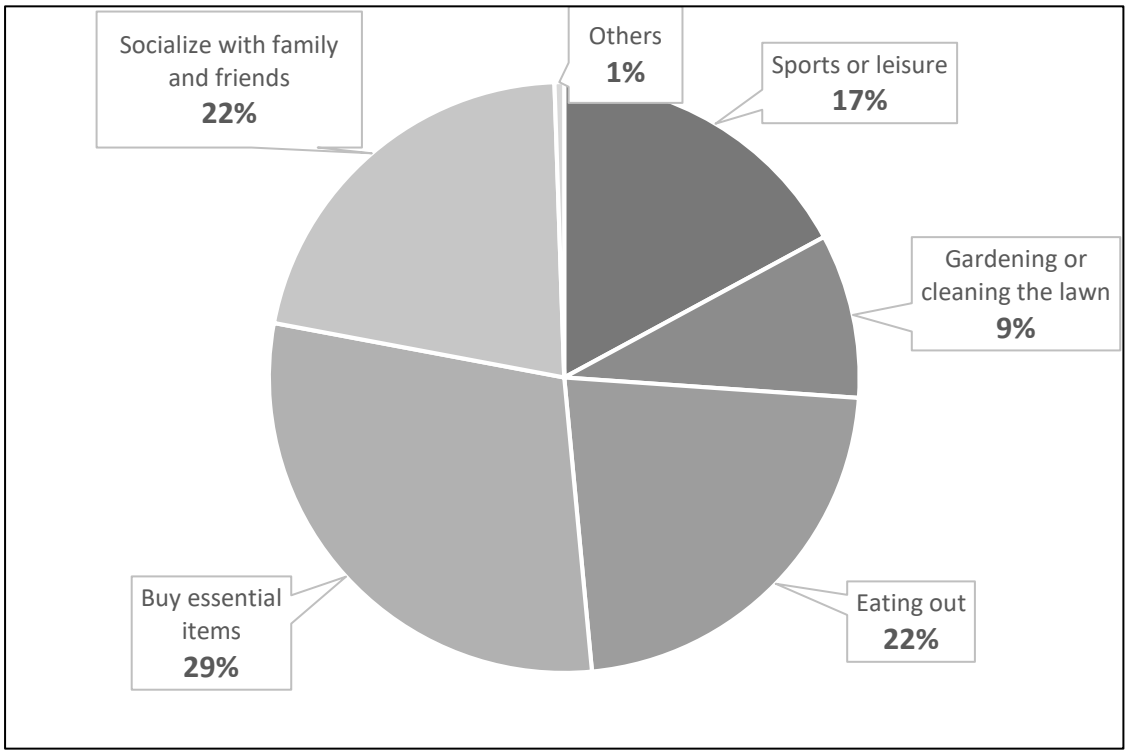

Figure 2: Daily activities outside their house

Meanwhile, figure 3 illustrate the environment the respondent used to do sports or leisure activities around their residential area. According to the pie chart from figure 3, most of the respondents prefer to carry their exercise routine at public parks reserved near their residential area. About 44% of the respondent favour the open space provided for leisure activities. While 28% of the residents prefer to physically active on the paved road that has been provided around their residential area. 13% of the respondents much prefer to increase their body metabolism at the indoor environment where 11% in the gymnasium, 2% at public halls, and 6% of the respondents are comfortable doing the exercise in their house. According to Bedimo-Rung et al. (2005), the parks' physical environment seems to be related to physical activity and park visitation. The finding in this survey indicates that a facility's availability is positively associated with physical activity levels (Ries et al., 2008). Other studies (Babey et al., (2008); Ajau Danis et al. (2014)) discovered that adolescents in urban areas are more likely to be involved in regular physical activities when they have access to parks.

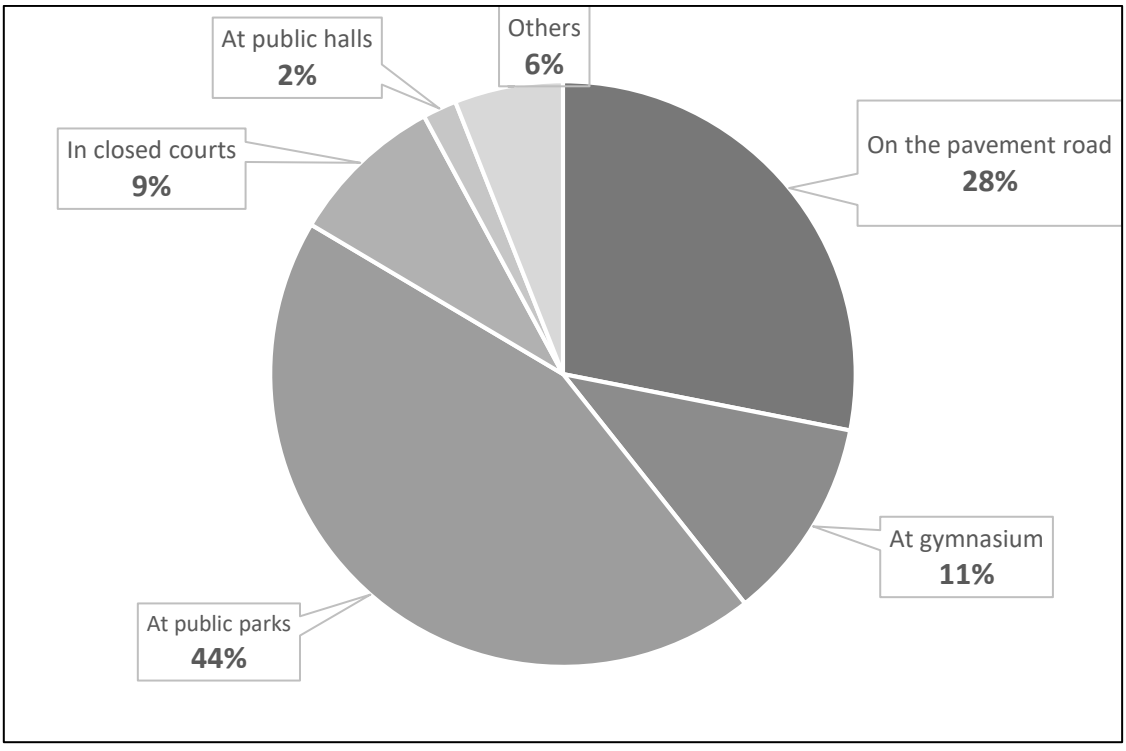

Figure 3: The preferable environment area for leisure or sports activities

In summary, the findings of the socio-demographic profile in this study show that most of the residents are young women (average age 32.9 ± 7.73 years, between 26 to 35 years), with a high level of education and working in the government sector with one half having an income of less than RM4000. These reflect that most respondents are high-educated youth and are low-income group (B40).

4.3.2 Daily Urban Lifestyle

Smoking habits is linked to respiratory problems (Aktan, Ozalevli, & Ozakbas, 2018). Figure 4 display the trend answer among respondent regarding smoking habits and alcohol consumptions. Based on the findings from socio-demographic profile in this study, majority of the respondents are young women (average age 32.9 ± 7.73 years, between 26 to 35 years). Thus, this summarize the trend answer for individual's behaviour toward smoking habits and alcohol consumption where the response rate for 'No' is within 58.1% to 88.9%, which proven majority of this young women group are relatively non-smoker and no alcoholic person. However, the percentage for family members is slightly higher than other statements, which indicates the probability of second-hand smoker among the respondent is higher.

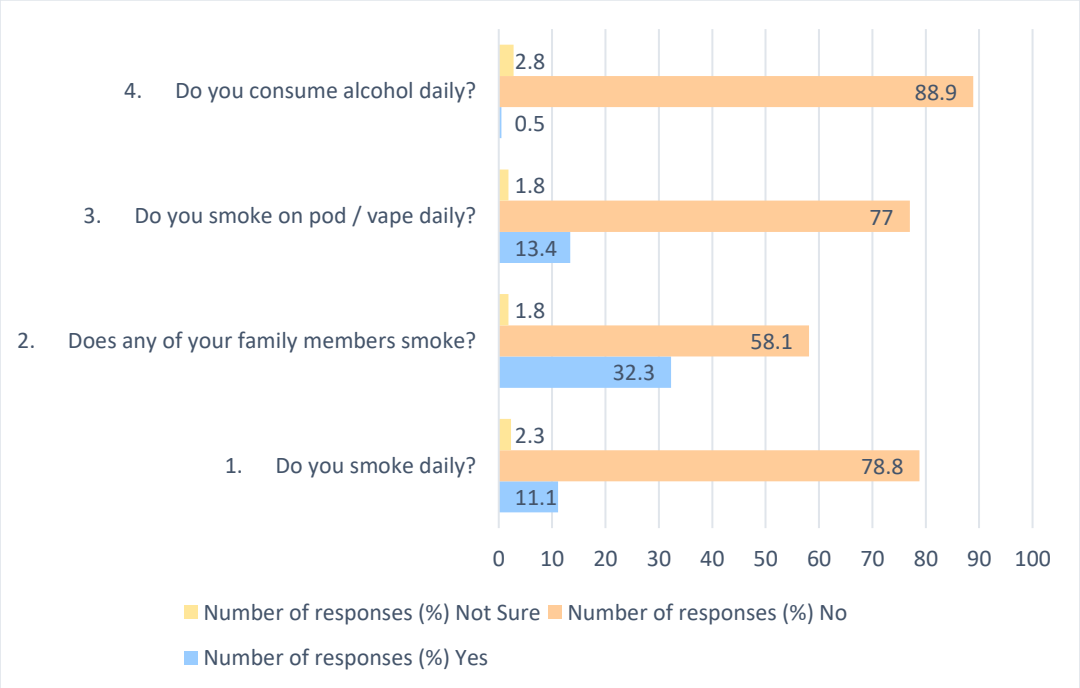

Figure 4: Smoking habits and alcohol consumption among respondent.

Table 5 show the respondent lifestyle on exercise, diet intake and additional intake. The findings from the survey showed that, most of the respondents were majorly did light exercise where (53.5%) of the respondent loved to do light housework such as dusting, sweeping, vacuuming and leisure walking. Meanwhile for moderate exercise (35.5%) and vigorous exercise (28%) were occasionally performed by majority of the respondent. The findings conclude that only light exercise is preferably choose by the urban residents due to hectic lifestyle.

Meanwhile, for diet intake, majority of the respondent does maintain a healthy diet intake where the findings on consumptions for vegetables is 39% on frequent daily intake. Besides, the consumption for fresh fruits or fresh fruit juice were nearly always (30.5%) among respondent. However, late night eating were record the highest at rarely (34%), while consumption on fast food such as McDonalds, KFC, Pizza Hut and instant noodles were highest at rarely (43%). Meanwhile, the involvement between urban dwellers with intermittent fasting, any diet style (31.5%) or fasting once a week (34%) were relatively higher at ‘never’ among respondents lifestyle. This proven majority of the respondent are practically maintain a healthy lifestyle habit on daily diet intake.

For additional intake, most of the respondent have the awareness to take additional supplement as daily consumption (35%). On the other hands, the additional intake for natural products (24.5%), trash products (58.5%) and traditional medicine (47%) were relatively higher at ‘never’ in the survey question. This indicates the awareness among urban dwellers the important of self-care health through additional supplement intake. In contrast, the traditional application through natural products consumption, traditional medicine practice and extra supplement intake are not preferably practices among residents. In a nutshell, the daily urban lifestyles among urban residents indicate a healthy lifestyle habit from the response percentage collected through the survey.

Table 5: Daily Urban Lifestyle on exercise, diet intake and additional intake.

Statement (n=200)	Number of responses (%)				
	Never	Rarely	Occasionally	Often	Nearly always
Exercise					
1. I do light exercise such as light housework (dusting, sweeping, vacuuming) and leisurely walking.	0.5	0.5	14.5	31.0	**53.5**
2. I do moderate exercise like brisk walk, cycling, dancing or any moderate exercise classes.	6.0	13.0	**35.5**	27.5	18.0
3. I participate in vigorous exercise such as running, hiking, lap swimming, playing soccer or any other league sports.	27.0	26.5	**28.0**	9.0	9.5
Diet Intake					
4. I take a lot of salads or vegetables in my plate.	3.5	9.5	21.5	**39.0**	27.5
5. I consume fresh fruits/ fresh fruit juice.	4.0	13.5	22.5	29.5	**30.5**
6. I eat at late hours.	13.0	**34.0**	30.0	13.0	10.0
7. I take fast food such as instant noodles and fast food 2-3 times a week (e.g.: KFC, McDonalds, etc)	13.5	**43.0**	22.0	16.0	5.5
8. I practice intermittent tasting, Atkins, keto or any other diets	**31.5**	22.5	23.5	11.5	11.0
9. I fast at least once a week.	**34.0**	27.5	20.0	8.5	10.0
Additional Intake					
10. I take additional supplement such as vitamin C, multivitamin and calcium to complement my nutritional value.	23.0	14.0	13.5	14.0	**35.5**
11. I consume natural product such as ginger, date, honey, gingko, ginseng and etc. for my health.	**24.5**	22.0	18.0	16.0	19.5
12. I consume product such as detox tea, whitening product, collagen, bird's nest, slimming herbs etc. for beauty and health.	**58.5**	22.0	7.5	7.5	4.5
13. I do massage, acupuncture, sauna and cupping etc. to treat my limbs.	**47.0**	17.0	19.5	8.0	8.0

* Responses in bold show the highest score on daily lifestyles practices by the residents.

4.3.3 Past or Current Illnesses Regarding Respiratory Infection

Figure 5 show the trend answer on past or current illnesses regarding respiratory infection among urban dwellers in Petaling district. The findings show that most of the respondents experiences common respiratory infection for allergy or sinusitis (26.3%), common flu (46.5%), cough (37.8%) and bronchial asthma (7.8%). This is line with the results of the study by (Khanna & Gharpure, 2013) that found urban population is more prone to allergy and sinusitis mainly because of higher occupation and industrial air pollution in the cities. In Khanna & Gharpure, (2013), it is estimated about 134 million people suffer from sinusitis or allergy, the symptoms included to debilitating headaches, fever and nasal congestion (common flu). While other infection such as Covid-19 (0.5%), bronchitis (0.5%), pneumonia (0.9%) and pulmonary tuberculosis (0.5%) were relatively low within 200 respondents.

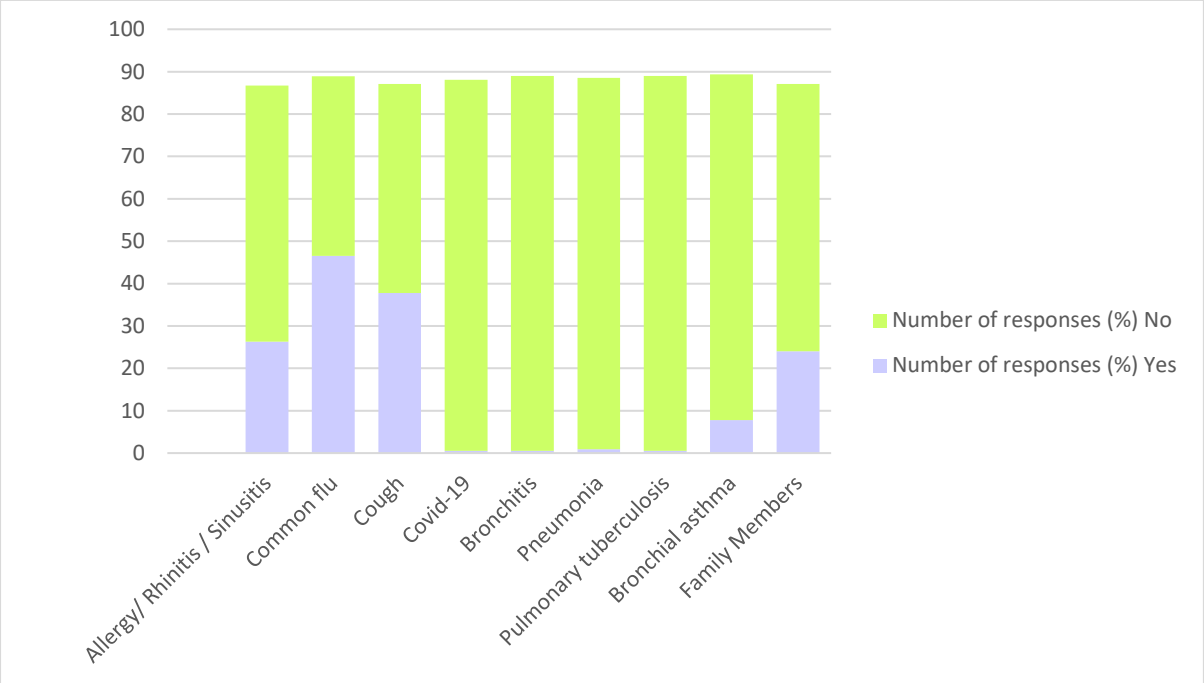

Figure 5: Past or current illnesses regarding respiratory infection.

Based on Table 6, the surveys show that majority of the respondents in this study, where the range number of responses in percentages within 40.5% to 75.5% were strongly disagree with the statement on common respiratory problems in their daily life. This indicates that for the past 12 months, majority of the resident in urban setting are not having respiratory problems.

Table 6: The survey on common respiratory problems in daily life of the respondents.

Statement (n=200)	Number of responses (%)				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Respiratory problems					
1. I usually sneeze / cough first thing in the morning.	**47.5**	21.0	16.0	8.5	7.0
2. In the past 12 months, I have experienced a period of flu, cough and phlegm that lasted for three days	**43.0**	20.0	12.5	13.5	11.0
3. I am overweight and it is affecting my breathing while doing routine work (such as walking, climbing the stairs etc.)	**40.5**	20.0	16.5	13.0	10.0
4. I always stop for breath when walking at moderate pace on level ground.	**49.5**	24.5	15.5	7.5	3.0
5. In the last 12 months, I had breathing shortness or whistling in my chest.	**75.5**	12.5	6.5	3.0	2.5
6. In the last 12 months, I have experienced attacks of shortness of breath and gasping for air.	**73.5**	15.0	6.0	2.5	3.0
7. In the last 12 months, I have been woken up at night by an attack of shortness of breath.	**74.0**	15.0	4.5	4.0	2.5

* Responses in bold show the highest score on respiratory problems experienced by residents.

In summary, the past or current illnesses regarding respiratory infection may be affected the residents due to the presence of pollutants in air that is known to cause respiratory infection in people. However, the respiratory infection developed in the residents were not chronic and severe.

4.3.4 Median score of respondents' daily urban lifestyle and the past or current illnesses related respiratory infection

This study uses the median because the distribution of data obtained through the respondents' urban lifestyle and respiratory infection scores is not normally distributed. Table 7 shows the minimum, maximum, median and standard deviation values for the median scores of respondents' urban lifestyle and respiratory infection for Petaling District. Overall, the respondents' urban lifestyle level is good because they have a minimum score of 29% and the median value (44.5±7.20). The respondents' respiratory infection shows that the respondents' have a minimum score of 22% and a median value of (29.0±4.57).

Table 7: Median score of respondents' daily urban lifestyle and the past or current illnesses regarding respiratory infection

Parameter	Minimum (%)	Maximum (%)	Median	Standard deviation
Daily urban lifestyle	29	65	44.50	7.20
Past or current illnesses regarding respiratory infection	22	48	29.00	4.57

However, the maximum score value for both parameter does not achieve 100%, the 65% maximum score value with a median score of less than 50% indicates moderates score for the urban lifestyle. Meanwhile, the maximum score and median score for respiratory infection are lower than the value recorded by the urban lifestyle, proving the weak score among respondents regarding respiratory infection exposure.

4.3.5 The relationship between the scores of respondents' urban lifestyle and respiratory infection in Petaling District.

The *Spearman rho* test was used to assess the relationship between the score of respondents' urban lifestyle and respiratory infection in the Petaling District. This study's findings show that there is a positive and significant relationship between the urban lifestyle and respiratory infection on residents in Petaling District. The strength values of the coefficients, r displayed in SPSS are as shown in Table 8. The Spearman correlation coefficient, r, can take values from +1 to -1. A r's of +1 indicates perfects rank association; r's of zero indicates no correlation between ranks and r's of -1 indicates perfect negative ranks association. The closer r's is to zero, the weaker the relationship between the ranks.

A Spearman's rank-order correlation was run to determine the relationship between scores of 200 respondents' urban lifestyle and respiratory infection in Petaling District. The Spearman's rho is computed on ranks and depicts a monotonic relationship. The study results found that the relationship between respondents' urban lifestyle and respiratory infection in Petaling District is weak (good) positive correlation between urban lifestyle and respiratory infection in the Petaling District, which was statistically significant ($r=0.06$, $p = 0.35$). This study shows that the respondent urban lifestyle has a poor relationship between respiratory infections.

Table 8: Association between scores of respondents' daily urban lifestyle and the past or current illnesses regarding respiratory infection

Parameter	Value r	Value p
Urban lifestyle and respiratory infection	0.066	0.354

* Spearman's rho test with value of $p<0.05$, $N = 200$

There is a limited number of published studies examining the association between daily urban lifestyle with respiratory infection. However, there is a study which showed significant positive correlation between daily urban lifestyle and respiratory infection among children in United Kingdom (Jephcote, Ropkins, & Chen, 2014). In overall, the results have met the objective of research which is to identify the relationship between urban lifestyle with respiratory infection in Petaling District, Selangor.

4.3.6 Relationship between sociodemographic characteristics with respondents' daily urban lifestyle and past or current illnesses regarding respiratory infection

The Chi-square test was used to study the relationship between sociodemographic characteristics and respondents' urban lifestyle and past or current respiratory infection in Petaling District. Other variables tested in this relationship are sociodemographic aspects (age, gender, educational level, employment status, marital status, household's income, travel to work, frequency of going outside the house and air purification devices).

Table 9 shows the results and significant analysis values of each variable. The results show the following relationship that age has no significant with daily urban lifestyle ($\chi2$ = 1506.12, p = 0.05), but has significant relationship with respiratory infection ($\chi2$ = 1073.02, p = 0.00). For gender, both has no significant relationship between daily urban lifestyle ($\chi2$ = 41.24, p = 0.15) and also with respiratory infection ($\chi2$ = 15.15, p = 0.76). Furthermore, the level of education has shown no significant relationship with urban lifestyle and also with respiratory infection ($\chi2$ = 43.53, p = 0.10) ($\chi2$ = 19.15, p = 0.51). Meanwhile, the employment status have significant correlation with the urban lifestyle ($\chi2$ = 243.06, p = 0.02), but have no significant association between respiratory infection ($\chi2$ = 132.71, p = 0.20). Household incomes, travel to work and frequency going outside the house were also shown no significant relationship with the urban lifestyle ($\chi2$ =75.39, p = 0.20) ($\chi2$ = 216.29, p = 0.17), but there are significant relationship between the frequency of going outside with respiratory infection where, ($\chi2$ = 240.36, p = 0.02). For respiratory infection, there is no significant correlation between household income, travel to work and frequency of going outside the house ($\chi2$ =33.83, p = 0.74) ($\chi2$ =147.12, p = 0.05) ($\chi2$ =107.48, p = 0.78). Lastly, the availability of air purification devices in house have no significant relationship with urban lifestyle where ($\chi2$ =38.14, p = 0.24), but have significant relation with respiratory infection, ($\chi2$ = 40.05, p = 0.01).

Table 9: Relationship between variables on daily urban lifestyle and respiratory infection

Variable	Daily urban lifestyle		Respiratory infection	
	χ^2	P value	χ^2	P value
Age	1506.13	0.05	1073.02	0.00
Gender	41.24	0.15	15.15	0.76
Educational Level	43.53	0.10	19.15	0.51
Employment Status	243.06	0.02	132.71	0.20
Marital Status	36.61	0.99	40.20	0.46
Household Income	75.39	0.20	33.83	0.74
Travel to work	216.29	0.17	147.12	0.05
Frequency of going outside the house	240.36	0.02	107.48	0.78
Air purification devices	38.15	0.24	40.05	0.01

Statistical analysis did not show any association between sociodemographic on (gender, educational level, marital status, marital status, household income, and travel to work) since the p-value of the variable is greater than significance value, which is a = 0.05. Thus, the null hypothesis on these sociodemographic variable were accepted. On the other hand, there are significance association between sociodemographic on employment status and frequency of going outside the house with the urban lifestyle among respondent. While, the correlation between sociodemographic on age and air purification devices have proven significant association with respiratory infection. These sociodemographic variables display the significant relation with urban lifestyle and respiratory infection where the p-value is greater than significance level, a = 0.05. Hence, the null hypothesis is rejected. Therefore, it can conclude that there are association between employment status and frequency of going outside the house with urban lifestyle. While there are association between air purification devices and age among respondents regarding respiratory infection.

4.4 CONCLUSION

A total of 200 users answered the questionnaire, resulting in response rate about 51.9%. The majority of respondents are women, married, working in the public sector and obtaining higher education. The total score for both parameter are moderate (65%) for daily urban lifestyle and low (48%) for respiratory infection, with the median score lower than 50%, (44.5±7.20) for daily urban lifestyle and (29.0±4.57) for respiratory infection. There is a relationship between urban daily lifestyle with respiratory infection with a weak positive correlation coefficient (r=0.06, p = 0.35). Meanwhile, strong positive correlations between the sociodemographic between employment status and frequency of going outside the house with chi-square value, (χ^2 = 243.06, p = 0.02), (χ^2 = 240.36, p = 0.02). Based on the data analyse, there are correlation in *Chi-Square* test where there are significant relationship between age and purification devices where the value (χ^2 = 1073.02, p = 0.00), (χ^2 = 40.05, p = 0.01). In summary, the strong positive correlation between ages, employment status, frequency of going outside the house and air purification devices are shown

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APPENDIX

APPENDIX A

CONSENT FORM

Jawatankuasa Etika Penyelidikan

Pusat Pengurusan Penyelidikan

1.1 Universiti Teknologi MARA
40450 SHAH ALAM

Tel: +603-5544-8069, Faks: +603-5544-2096/2767

Borang Maklumat Subjek

Tajuk penyelidikan

Perkaitan Spatial Antara Ruang Kehidupan di Bandar Dengan Penyakit Pernafasan di Daerah Petaling, Selangor.

Pengenalan penyelidikan

Kemudahan di kawasan bandar dari segi pengangkutan, makanan, kemudahan kesihatan, perubatan dan rekreasi membolehkan penduduk bandar menjalani gaya hidup yang sihat. Walau bagaimanapun, kepadatan penduduk yang tinggi membawa risiko pencemaran, jangkitan dan tekanan kehidupan dan mampu mencetuskan pelbagai masalah kesihatan, termasuklah jangkitan pernafasan. Di persekitaran bandar, kehadiran zarah-zarah udara yang datang daripada debu jalan, pembakaran untuk tenaga dan pembakaran kenderaan boleh mnenyebabkan risiko jangkitan pernafasan tinggi. Hal ini kerana, zarah udara menyediakan tempat untuk virus dan bakteria melekat dan menyebabkan jangkitan pernafasan. Oleh itu, penyelidikan ini dilakukan untuk mengenal pasti faktor-faktor yang meningkatkan risiko jangkitan pernafasan dan berlakunya jangkitan pernafasan di kawasan persekitaran bandar.

Tujuan penyelidikan

Kajian ini adalah untuk mengenal pasti gaya hidup di bandar yang menimbulkan risiko jangkitan pernafasan yang berbeza di kawasan bandar.

Prosedur penyelidikan

Anda akan diberikan Borang Kaji Selidik oleh penyelidik. Anda akan menjawab semua soalan. Ia akan mengambil masa kira-kira 8 minit hingga 10 minit untuk satu set soal selidik. Semua data yang diperoleh daripada soal selidik akan dianalisis.

Penyertaan dalam penyelidikan

Penyertaan anda di dalam penyelidikan ini adalah secara sukarela. Anda berhak menolak tawaran penyertaan ini atau menarik diri daripada penyelidikan ini pada bila-bila masa tanpa sebarang penalti.

Manfaat penyelidikan

Maklumat yang diperoleh daripada kajian ini akan memberi kesedaran kepada masayrakat terutamanya di kawasan bandar mengenai risiko jangkitan pernafasan. Ia juga dapat digunakan sebagai bahan pengajaran atau alat untuk pendidikan masyarakat dalam mengurangkan risiko jangkitan pernafasan termasuk COVID-19 pada masa akan datang dalam kalangan masyarakt umum. Di samping itu, kajian ini dapat digunakan sebagai panduan untuk pihak berkepentinagn untuk mengurangkan risiko jangkitan pernafasan di kawasan bandar.

Risiko penyelidikan

Tiada risiko

Kerahsiaan

Maklumat anda akan dirahsiakan oleh penyelidik dan tidak akan didedahkan melainkan jika ia dikehendaki oleh undang-undang.

Dengan menandatangani borang persetujuan ini, anda membenarkan penelitian rekod, penganalisaan dan penggunaan data hasil daripada penyelidikan ini.

Sekiranya anda mempunyai sebarang pertanyaan mengenai penyelidikan ini atau hak-hak anda, sila hubungi **Syamin Farhana Binti Ahmad Sanusi** di talian **011-2337 4900.**

Borang Izin[1]

Untuk menyertai penyelidikan ini, anda atau penjaga sah perlu menandatangani Borang Izin ini.

Saya dengan ini mengesahkan bahawa saya telah memenuhi syarat umur dan berupaya bertindak bagi pihak saya sendiri/ sebagai[2] penjaga yang sah dalam perkara-perkara berikut:

1. Saya memahami ciri-ciri dan skop penyelidikan ini.
2. Saya telah membaca dan memahami semua syarat penyertaan penyelidikan ini.
3. Saya berpuas hati dengan jawapan pada kemusykilan saya tentang penyelidikan ini.
4. Saya secara sukarela bersetuju menyertai penyelidikan ini dan mengikuti segala atur cara dan memberi maklumat yang diperlukan kepada penyelidik seperti yang dikehendaki.
5. Saya boleh menarik diri daripada penyelidikan ini pada bila-bila masa tanpa memberi sebab.
6. Saya telah pun menerima satu salinan Borang Maklumat Subjek dan Borang Izin.
7. Selain daripada kecederaan yang disebabkan oleh kelalaian dan kecuaian penyelidik, saya dengan ini melepaskan dan menggugurkan UiTM dan semua penyelidik dari semua liabiliti berhubung dengan, wujud dari atau berkaitan dengan penyertaan saya. Saya bersetuju untuk menjadikan mereka tidak bertanggunggjawab terhadap apa-apa kemudaratan atau kerugian yang mungkin akan saya tanggung disebabkan oleh penyertaan saya.

___Nama Subjek/ Wakil Sah yang berkuatkuasa Tandatangan

___No. Kad Pengenalan Tarikh

___Nama Saksi[3] Tandatangan

___No. Kad Pengenalan Tarikh

___Nama Penyelidik/Pengambil Izin Tandatangan

___No. Kad Pengenalan Tarikh

Research Ethics Committee

Research Management Centre

Universiti Teknologi MARA

40450 SHAH ALAM

Tel: 03 – 5544-8069, Faks: 03 – 5544-2096/2767

Subject Information Sheet

Research Title

Spatial Association of Urban Lifestyle with Respiratory Infection in Petaling District, Selangor.

Introduction of Research

Abundance of facilities in urban areas in terms of transportation, availability of food, health facilities, recreation and medical facilities allow the urban dwellers to have a healthy lifestyle. However, the high density of population carries a higher risk of pollution, infection and stress that can trigger a series of health problems in which respiratory infection is one of the risk. In urban environments, the presence of airborne particles comes mainly from road dust, soil resuspension, coal burning and vehicle combustion. These particles provide attachment for virus and bacteria that can further cause respiratory infection. This study is conducted to identify the factors that increase the risks of respiratory infection in urban areas.

Purpose of Research

This study is to identify urban lifestyle that poses different risk of respiratory infection in urban areas.

Research Procedure

You will be given the Questionnaire Form by researcher. You will answer all the question. It will take about 8 minutes to 10 minutes for one set of questionnaires. All data obtained from the questionnaire will be analysed.

Participation in Research

Your participation in this study is entirely voluntary. You may refuse to take part in the study, or you may withdraw yourself from participation in the study at any time without penalty.

Benefit of Research

The information obtained from this study may create awareness among the public especially in urban area on the risk of respiratory infection. It also can be used as material or tools for community and public education to reduce the risk of respiratory infection including COVID-19 in future among general public. In addition, this study can be used as a guidance for stakeholders to reduce the risk of respiratory infection in urban areas.

Research Risk

No risk

Confidentiality

Your information will be kept confidential by the investigators and will not be made public unless disclosure is required by law.

By signing this consent form, you will authorize the review of records, analysis and use of the data arising from this study.

If you have any question about this research or your rights, please contact **Syamin Farhana Binti Ahmad Sanusi** at telephone number **011-23374900**.

Consent Form[1]

To become a subject in the research, you or your legal guardian are required to sign this Consent Form.

I herewith confirm that I have met the requirement of age and am capable of acting on behalf of myself / as[2] a legal guardian as follows:

1. I understand the nature and scope of the research being undertaken.
2. I have read and understood all the terms and conditions of my participation in the research.
3. All my questions relating to this research and my participation therein have been answered to my satisfaction.
4. I voluntarily agree to take part in this research, to follow the study procedures and to provide all necessary information to the investigators as requested.
5. I may at any time choose to withdraw from this research without giving any reason.
6. I have received a copy of the Subjects Information Sheet and Consent Form.
7. Except for damages resulting from negligent or malicious conduct of the researcher(s), I hereby release and discharge UiTM and all participating researchers from all liability associated with, arising out of, or related to my participation. I agree to hold them harmless from any harm or loss that may be incurred by me due to my participation in the research.

_____ Na
me of Subject/Legally authorized representative (LAR) Signature

_____ I.C
No Date

_____ Na
me of Witness[3] Signature

_____ I.C
No Date

_____ Na
me of Consent Taker Signature

_____ I.C
No Date

APPENDIX B

QUESTIONNAIRE

BORANG KAJI SELIDIK
QUESTIONNAIRE FORM

TAJUK KAJIAN:
PERKAITAN SPATIAL ANTARA KEHIDUPAN DI BANDAR DENGAN PENYAKIT PERNAFASAN DI DAERAH PETALING, SELANGOR.
RESEARCH TITLE:
SPATIAL ASSOCIATION OF URBAN LIFESTYLE WITH RESPIRATORY ILLNESSES IN PETALING DISTRICT, SELANGOR.

Kajian ini adalah untuk menilai kaitan antara ruang lingkup kehidupan di bandar dengan pendedahan penyakit pernafasan di kalangan penduduk di daerah Petaling (Shah Alam, Subang Jaya dan Petaling Jaya)
This study is to evaluate the association between urban lifestyle with respiratory illnesses exposure among residents of Petaling District (Shah Alam, Subang Jaya and Petaling Jaya).

Borang ini terbahagi kepada bahagian berikut:
This form has been divided into these sections:

A	Ciri-ciri socio-demografik *Socio-demographic factors*
B	Gaya hidup harian di bandar *Daily urban lifestyle*
C	Sejarah atau sakit yang dialami berkenaan penyakit pernafasan atau jangkitan pernafasan. *Past or current illnesses regarding respiratory illnesses or respiratory infection.*

Penyertaan anda di dalam penyelidikan ini adalah secara sukarela. Dengan menjawab borang kaji selidik ini, anda bersetuju membenarkan penelitian rekod, penganalisaan dan penggunaan data hasil daripada penyelidikan ini. Maklumat dalam borang kaji selidik ini hanya untuk kegunaan penyelidikan sahaja dan identiti adalah sulit.
Your participation in this study is entirely voluntary. By responding to this survey form, you consent to the record-taking, analysis and use of the data arising from this study. The information in this questionnaire is only for research purpose and your identity remain strictly confidential.

Seksyen A: Sociodemografi
Section A: Sociodemography

Anda dikehendaki menjawab setiap soalan yang tertera. Sila pilih jawapan yang terbaik.
Please answer all the questions. Select the most appropriate answer.

1. Umur / *Age:* _____ tahun / *years old*

2. Jantina / *Gender:* ☐ Lelaki / *Male* ☐ Perempuan / *Female*

3. *Alamat / *Address*: _____
(Nombor unit, nombor rumah, bangunan, nama jalan, nama taman, poskod)
(Unit number, house number, building, street name, postal code)

**This information will be used for analysis on geographic information system only.*

4. Lokasi perumahan (pilihan jawapan boleh lebih daripada satu)
Residential location (The answer options can be more than one)

☐ Berdekatan kawasan perindustrian / *Near industrial area*
☐ Berdekatan jalan utama atau lebuh raya / *Near main road o highway*
☐ Berdekatan pusat membeli belah / *Near shopping mall*
☐ Berdekatan pengangkutan awam / *Near public transport*
☐ Tiada yang berkaitan / *Not applicable*
☐ Lain-lain / *Others:*_____ (sila nyatakan / *please specify)*

5. Tahap pendidikan / *Educational level:*
☐ Tiada pendidikan formal / *No formal education*
☐ Sekolah rendah / *Primary school*
☐ Sekolah menengah / *Secondary school*
☐ Universiti / Kolej / Institusi / *University / College / Institution*
☐ Lain-lain / *Other:*_____ (sila nyatakan / *please specify)*

6. Status pekerjaan / *Employment status:*
☐ Pelajar / *Student*
☐ Suri rumah / *Housewife*
☐ Bekerja sendiri / *Self-employed*
☐ Penjawat awam / *Government sector*
☐ Swasta / *Private sector*
☐ Pesara / *Retiree*
☐ Tidak bekerja / *Unemployed*
☐ Lain-lain / *Others:* _____ (sila nyatakan / *please specify)*

7. Tahap perkahwinan / *Marital status*:

☐ Berkahwin / *Married*
☐ Bujang / *Single*
☐ Lain-lain / *Others*

8. Jumlah pendapatan isirumah bulanan / *Total monthly household income:*

- ☐ Kurang daripada RM 4000 / *Less than RM 4000*
- ☐ RM 4000 – RM 8500 / *RM 4000 – RM 8500*
- ☐ Lebih daripada RM 8500 / M*ore than RM 8500*

9. Bagaimana perjalanan harian anda ke tempat kerja / tempat belajar?
How do you travel to work?

- ☐ Dengan berjalan kaki / *By walking*
- ☐ Menggunakan pengangkutan awam / *By public transport (bus, LRT, MRT etc)*
- ☐ Menggunakan motosikal / *By motorcycle*
- ☐ Menggunakan kereta persendirian / *By private car*
- ☐ Menggunakan khidmat teksi atau e-hailing / *By taxi or e-hailing services*
- ☐ Memandu/bermotosikal ke stesen pengangkutan sebelum menaiki pengangkutan awam / *By driving to the station before taking public transport*
- ☐ Lain-lain / *Others* _____ (sila nyatakan / *please specify*)

10. Berapakah kekerapan anda ke luar dari rumah?
How often do you go out of your house?

- ☐ Setiap hari / *Daily*
- ☐ Selang sehari atau dua hari / *Every one to two days*
- ☐ Sekali seminggu / *Once a week*
- ☐ Dua minggu sekali / *Once in a fortnight*
- ☐ Sekali sebulan / Once a *month*
- ☐ Lain-lain / *Others:* _____ (sila nyatakan / *please specify*)

11. Selain belajar/bekerja, apakah aktiviti harian yang anda biasa lakukan di luar rumah? (Pilihan jawapan boleh lebih daripada satu)
Other than studying/working, which daily activities do you usually do outside your house? (The answer option can be more than one)

- ☐ Bersukan atau beriadah / *Sports or leisure*
- ☐ Berkebun atau mengemas halaman rumah / *Gardening or cleaning the lawn*
- ☐ Makan di luar / *Eating out*
- ☐ Ke kedai membeli barang keperluan / *To buy essential items*
- ☐ Bersosial bersama keluarga dan rakan / *Socialize with family and friends*
- ☐ Lain-lain / *Others* _____ (sila nyatakan / *please specify)*

12. Di kawasan manakah anda biasa bersukan atau beriadah? (Pilihan jawapan boleh lebih daripada satu)
Which environment do you do sports and leisure activities? (The answer option can be more than one)

- ☐ Di tepi jalan di kawasan perumahan / *On the pavement road around residential area*
- ☐ Di pusat gimnasium / *At gymnasium*
- ☐ Di taman awam (termasuk gelanggang terbuka) / *At public parks (including open court)*
- ☐ Di gelanggang tertutup / *In closed courts (badminton, futsal etc.)*
- ☐ Di dewan orang ramai / *At public halls*
- ☐ Lain-lain / *Others:* _____ (sila nyatakan / *please specify)*

13. Sewaktu wabak COVID-19 menular, apakah yang anda lakukan untuk melindungi diri anda di tempat tumpuan? (Pilihan jawapan boleh lebih daripada satu)
During COVID-19 outbreak, what did you do to protect yourself in crowded places? (The answer option can be more than one)

- ☐ Memakai pelitup muka / *Wear face mask*
- ☐ Menjaga jarak fizikal / *Keep physical distance*
- ☐ Sentiasa disinfeksi tangan / *Always disinfect hands*
- ☐ Elakkan bersentuhan dengan objek tumpuan / *Avoid touching any high risk things*
- ☐ Memakai sarung tangan / *Wear gloves*
- ☐ Lain-lain / *Others* _____ (sila nyatakan / *please specify)*

14. Adakah anda menggunakan alat penapisan udara di dalam rumah?
Do you use air purification device in your home?

- ☐ Ya / *Yes*
- ☐ Tidak / *No*

Seksyen B: Gaya Hidup Harian Di Bandar
Section B: Daily Urban Lifestyle.

Sila tandakan (√) jawapan anda di ruang yang disediakan.
Please tick (√) your answer in the provided space.

Bil ***No.***	**Pernyataan** ***Statement***	**Ya** **Yes**	**Tidak** **No**	**Tidak pasti** ***Not sure***
Tabiat merokok dan pengambilan alkohol / *Smoking habits and alcohol consumptions*				
1.	Adakah anda merokok setiap hari? *Do you smoke daily?*			
2.	Adakah ahli keluarga anda merokok? *Does any of your family members smoke?*			
3.	Adakah anda menghisap pod / *vape* setiap hari? *Do you smoke on pod / vape daily?*			
4.	Adakah anda mengambil alkohol setiap hari? *Do you consume alcohol daily?*			

Sila kemukakan tahap persetujuan anda terhadap setiap pernyataan berikut dengan memilih skala jawapan berikut:
1. Tidak Pernah 2. Jarang 3. Sekali-sekala 4. Selalu 5. Hampir selalu
Please indicate your level of agreement with each of the following statements by selecting the following answer scale:
1. *Never* 2. *Rarely* 3. *Occasionally* 4. *Often* 5. *Nearly always*

Penyataan *Statement*		Tahap Persetujuan *Level of Agreement*				
		Tidak Pernah *Never* 1	Jarang *Rarely* 2	Sekali-sekala *Occasionally* 3	Selalu *Often* 4	Hampir selalu *Nearly always* 5
Senaman / *Exercise*						
6.	Saya melakukan senaman ringan seperti mengemas rumah (menyapu, bersihkan habuk, vakum) dan berjalan santai. *I do light exercise such as light housework (dusting, sweeping, vacuuming) and leisurely walking.*	1	2	3	4	5
7.	Saya melakukan aktiviti senaman sederhana seperti berjalan dengan pantas, berbasikal, menari atau kelas senaman yang sederhana. *I do moderate exercise like brisk walk, cycling, dancing or any moderate exercise classes.*	1	2	3	4	5
8.	Saya menyertai aktiviti senaman berat seperti berlari, mendaki, berenang, bermain bola sepak atau sukan liga yang lain.	1	2	3	4	5

	I participate in vigorous exercise such as running, hiking, lap swimming, playing soccer or any other league sports.					
Pengambilan makanan / *Diet intake*						
10.	Saya mengambil sayuran atau ulaman dalam kuantiti yang banyak. *I take a lot of salads or vegetables in my plate.*	1	2	3	4	5
11.	Saya mengambil buah-buahan segar / jus buah tanpa gula. *I consume fresh fruits/ fresh fruit juice.*	1	2	3	4	5
12.	Saya makan pada lewat malam. *I eat at late hours.*	1	2	3	4	5
13.	Saya makan makanan segera seperti mi segera dan makanan segera 2-3 kali seminggu (contoh: KFC, McDonalds dan lain-lain) *I take fast food such as instant noodles and fast food 2-3 times a week (e.g.: KFC, McDonalds, etc)*	1	2	3	4	5
14.	Saya mengamalkan "intermittent fasting"/ diet Atkins / keto / atau lain-lain diet *I practice intermittent tasting, Atkins, keto or any other diets*	1	2	3	4	5
15.	Saya berpuasa sekurang-kurangnya sekali seminggu. *I fast at least once a week.*	1	2	3	4	5
Pengambilan makanan tambahan / Additional intake						
15.	Saya mengambil supplemen tambahan seperti vitamin C, multivitamin, calcium dan lain-lain untuk melengkapi keperluan nutrisi saya. *I take additional supplement such as vitamin C, multivitamin and calcium to complement my nutritional value.*	1	2	3	4	5
16.	Saya mengambil produk alami seperti halia, kurma, madu, gingko, ginseng dan lain-lain untuk kesihatan. *I consume natural product such as ginger, date, honey, gingko, ginseng and etc. for my health.*	1	2	3	4	5
17.	Saya mengambil produk seperti teh detox, produk pemutih, pelangsing, kolagen, sarang burung, jamu dan lain-lain untuk kecantikan dan kesihatan.	1	2	3	4	5

	I consume product such as detox tea, whitening product, collagen, bird's nest, slimming herbs etc. for beauty and health.					
18.	Saya mengamalkan urutan, akupuntur, sauna, bekam dan lain-lain untuk merawat anggota badan saya. *I do massage, acupuncture, sauna and cupping etc. to treat my limbs.*	1	2	3	4	5

Seksyen C: Sejarah atau sakit yang dialami berkenaan penyakit pernafasan atau jangkitan pernafasan.
***Section C*:** *Past or current illnesses regarding respiratory illnesses or respiratory infection.*
Sila tandakan (√) jawapan anda di ruang yang disediakan.
Please tick (√) your answer in the provided space.

Bil ***No.***	**Pernyataan** ***Statement***	**Ya** **Yes**	**Tidak** **No**	**Tidak pasti** ***Not sure***
Sejarah penyakit pernafasan / *Past respiratory illnesses*				
19.	Pilih penyakit pernafasan yang pernah atau sedang dihidapi dalam 12 bulan yang lepas (Pilihan jawapan boleh lebih daripada satu) *Choose the respiratory illnesses that you have experienced or currently having in the past 12 months (The answer option can be more than one)*			
	a. Resdung / *Allergy*/ *Rhinitis* / *Sinusitis*			
	b. Selsema biasa / *Common flu*			
	c. Batuk / *Cough*			
	d. Covid-19			
	e. Radang paru-paru / *Bronchitis*			
	f. Jangkitan kuman di paru-paru / *Pneumonia*			
	g. Penyakit batuk kering / *Pulmonary tuberculosis*			
	h. Asma atau lelah / *Bronchial asthma*			
20.	Adakah ahli keluarga anda pernah mengalami penyakit pernafasan seperti tertera diatas dalam tempoh 12 bulan yang lepas? *Does any of your family members have experienced one of the respiratory illnesses mentioned above in the past 12 months?*			

Sila kemukakan tahap persetujuan anda terhadap setiap pernyataan berikut dengan memilih skala jawapan berikut:
1. Sangat Tidak Bersetuju 2. Tidak Bersetuju 3. Neutral 4. Bersetuju 5. Sangat Bersetuju
Please indicate your level of agreement with each of the following statements by selecting the following answer scale:
1. *Strongly Disagree* 2. *Disagree* 3. *Neutral* 4. *Agree* 5. *Strongly Agree*

	Penyataan *Statement*	Tahap Persetujuan *Level of Agreement*				
		Sangat Tidak Bersetuju *Strongly Disagree* 1	Tidak bersetuju *Disagree* 2	Neutral *Neutral* 3	Bersetuju *Agree* 4	Sangat Bersetuju *Strongly Agree* 5
Masalah pernafasan / *Respiratory problems*						
1.	Setiap kali saya bangun pada waktu pagi, saya selalunya akan bersin / batuk *I usually sneeze / cough first thing in the morning.*	1	2	3	4	5
2.	Dalam tempoh 12 bulan yang lepas, saya pernah mengalami selsema, batuk dan kahak untuk tempoh lebih dari tiga hari. *In the past 12 months, I have experienced a period of flu, cough and phlegm that lasted for three days.*	1	2	3	4	5
3.	Saya mempunyai berat badan yang berlebihan dan ianya memberi kesan kepada sistem pernafasan saya ketika saya melakukan aktiviti harian (seperti: berjalan, menaiki tangga dan lain-lain) *I am overweight and it is affecting my breathing while doing routine work (such as walking, climbing the stairs etc.)*	1	2	3	4	5
4.	Saya selalu akan berhenti untuk ambil nafas seketika walaupun saya berjalan dengan kelajuan yang sederhana di atas permukaan yang rata. *I always stop for breath when walking at moderate pace on level ground.*	1	2	3	4	5
5.	Dalam 12 bulan yang lepas, saya ada mengalami sesak nafas atau bunyi siulan di dada saya. *In the last 12 months, I had breathing shortness or whistling in my chest.*	1	2	3	4	5
6.	Dalam tempoh 12 bulan yang lepas, saya pernah mengalami kesesakan nafas sehingga tercungap-cungap. *In the last 12 months, I have experienced attacks of shortness of breath and gasping for air.*	1	2	3	4	5

7.	Dalam tempoh 12 bulan yang lepas, saya pernah terjaga pada waktu malam disebabkan kesesakan nafas. *In the last 12 months, I have been woken up at night by an attack of shortness of breath.*	1	2	3	4	5

THANK YOU FOR YOUR TIME

APPENDIX C

Reliability Test

Cronbach Alpha (α) for Pilot Study among 10 respondents of Petaling District residents.

Daily Urban Lifestyle:

Case Processing Summary

		N	%
Cases	Valid	10	100.0
	Excluded[a]	0	.0
	Total	10	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.808	17

Respiratory Infection:

Case Processing Summary

		N	%
Cases	Valid	10	100.0
	Excluded[a]	0	.0
	Total	10	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.695	7

Normality Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
TotalScoreInfection	.134	200	.000	.956	200	.000
TotalScoreLifestyle	.068	200	.024	.985	200	.033

a. Lilliefors Significance Correction

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
LgRespiratory	.110	200	.000	.974	200	.001
LgUrbanLifestyle	.056	200	.200*	.988	200	.096

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Spearman's rho Correlation Test

Correlations

			TotalScoreLifestyle	TotalScoreInfection
Spearman's rho	TotalScoreLifestyle	Correlation Coefficient	1.000	.066
		Sig. (2-tailed)	.	.353
		N	200	200
	TotalScoreInfection	Correlation Coefficient	.066	1.000
		Sig. (2-tailed)	.353	.
		N	200	200