



UNIVERSITI PUTRA MALAYSIA

***FOOD SECURITY STATUS AND ITS COPING STRATEGIES AMONG
HOUSEHOLDS WHO RECEIVED THE LOST FOOD PROJECT IN
SELECTED LOW-COST PUBLIC HOUSING AREAS IN KLANG
VALLEY***

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FPSK3 2021 16**

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HOUSEHOLDS WHO RECEIVED THE LOST FOOD PROJECT IN SELECTED
LOW-COST PUBLIC HOUSING AREAS IN KLANG VALLEY**

**BY
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A project submitted as a partial fulfillment of the requirement for the degree of
Bachelor of Science in Nutrition and Community Health from the Faculty of
Medicine and Health Sciences, Universiti Putra Malaysia

APPROVAL

The project entitled “Food security status and its coping strategies among households who received The Lost Food Project in selected low-cost public housing areas in Klang Valley” was prepared by Nur Arina Bakeri and submitted to the Faculty of Medicine and Health Sciences as partial fulfilment of the requirement for the degree of Bachelor of Science in Nutrition and Community Health from the Faculty of Medicine and Health Sciences, Universiti Putra Malaysia.

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Date: 13 September 2021

DECLARATION

I hereby declare that this thesis report is based on my original work except for quotations and citations, which have been acknowledged to the corresponding authors.

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LIST OF ABBREVIATION

AIFS	- ASEAN Integrated Food Security
BMI	- Body Mass Index
BNM	- <i>Bank Negara Malaysia</i>
CKD	- Chronic kidney disease
CMCO	- Conditional Movement Control Order
CPI	- Consumer price index
DBKL	- <i>Dewan Bandaraya Kuala Lumpur</i>
DOSM	- Department of Statistics Malaysia
FAO	- Food and Agriculture Organization
IMF	- International Monetary Fund
KPKT	- Ministry of Housing and Local Government
MANS	- Malaysian Adult Nutrition Survey
MCO	- Movement Control Order
MCSI	- Malaysian Coping Strategies Index
MOH	- Ministry of Health
MPI	- Multidimensional Poverty Index
NGO	- Non-governmental organization
PA	- <i>Perumahan Awam</i>

PLI	- Poverty line income
PPKM	- Program for the Rehabilitation of Malnourished children
PPR	- People's Housing Project
PS1M	- 1 Malaysia Milk Program
RMT	- <i>Rancangan Makanan Tambahan</i>
RNI	- Recommended nutrition intake
SDG	- Sustainable Development Goals
SNAP	- Supplemental Nutrition Assistance Program
SPAFS	- Strategic Plan of ASEAN on Food Security
TEFAP	- Temporary Emergency Federal Assistance Program
TLFP	- The Lost Food Project
TWR-G	- Technical Working Research Group
USDA	- United States Department of Agriculture
WFP	- World Food Programme
WHO	- World Health Organization
WIC	- Special Supplemental Nutrition Program for Women, Infants, and
Children	

ABSTRACT

FOOD SECURITY STATUS AND ITS COPING STRATEGIES AMONG HOUSEHOLDS WHO RECEIVED THE LOST FOOD PROJECT IN SELECTED LOW-COST PUBLIC HOUSING AREAS IN KLANG VALLEY

Nur Arina Bakeri

The Lost Food Project (TLFP) has continuously working on their strategic plan in combating the food insecurity problem by providing food assistance to low-income households in Klang Valley. The cross-sectional study aimed to determine the food security status and its coping strategies among households who received TLFP products in selected low-cost public housing areas in Klang Valley. A total of 88 respondents involved in this study via convenience sampling. Respondents completed a set of questionnaire either through phone or face-to-face interview or self-administered. The questionnaire comprises of five sections which are socioeconomic background, overall satisfaction on food assistance program, nutrition knowledge, food security status and its coping strategies. Findings showed that the prevalence of food insecurity among households in this study was 59.1%. Most of the respondents had moderate (37.5%) and good (27.5%) nutrition knowledge. The level of satisfaction, usefulness and significance towards the TLFP products were 72.7%, 88.7% and 86.4%, respectively. The mean Malaysian Coping Strategies Index (MCSI) score was 20.40 ± 19.82 , with the most applied coping strategies were 'using less expensive food', 'allocating money to buy staple and less preferred food' and 'reducing the number of meals eaten in a day'. Food insecure households with the mean MCSI score of 26.95 ± 22.13 tend to adopt more coping strategies to mitigate the food insecurity problem compared to those food secure households with the mean score of 11.29 ± 11.06 . Moreover, the study also showed that households who rent their house ($X^2=7.593$, $p = 0.006$), low household income ($X^2=4.910$, $p = 0.027$) and high monthly food and drinks expenditure ($X^2=9.208$, $p = 0.011$) were the factors that contribute to the food insecurity problem among TLFP recipients. The study concludes that household income, food and drinks expenditure and homeownership are associated with household's food security status; thus, the situation forced them to applied more coping strategies to alleviate the problem. Further research should be conducted to evaluate the effectiveness of TLFP in helping Malaysian's citizen improving their food security status.

ABSTRAK

STATUS SEKURITI MAKANAN DAN STRATEGI MENGATASINYA DALAM KALANGAN PENERIMA PRODUK ‘THE LOST FOOD PROJECT’ DI PERUMAHAN AWAM KOS RENDAH DI SEKITAR LEMBAH KLANG

Nur Arina Bakeri

The Lost Food Project (TLFP) sentiasa berusaha untuk merealisasikan perancangan strategik dalam menyelesaikan masalah sekuriti (kecukupan) makanan dengan menyalurkan bantuan makanan kepada golongan berpendapatan rendah sekitar Lembah Klang. Kajian ini bertujuan untuk mengenalpasti status sekuriti makanan dan strategi mengatasinya dalam kalangan penerima bantuan TLFP di perumahan awam kos rendah di sekitar Lembah Klang. Kajian keratan rentas ini telah melibatkan 88 orang responden mengikut kaedah pensampelan mudah. Responden melengkapkan set borang soal selidik samada melalui telefon, secara bersemuka atau dijawab sendiri oleh peserta. Soal selidik tersebut terdiri daripada lima bahagian iaitu latar belakang sosioekonomi, tahap kepuasan terhadap program bantuan makanan, tahap pengetahuan tentang pemakanan, status sekuriti makanan dan strategi mengatasinya. Kelaziman masalah sekuriti makanan dalam kalangan isi rumah responden adalah 59.1% dan 64.8% peserta mempunyai tahap pengetahuan tentang pemakanan yang sederhana dan tinggi. Tahap kepuasan, kebergunaan dan kepentingan bantuan makanan daripada TLFP adalah masing-masing 72.7%, 88.7% dan 86.4%. Purata skor MCSI adalah 20.40 ± 19.82 dengan strategi mengatasi masalah sekuriti makanan paling kerap digunakan adalah ‘menggunakan makanan yang murah’, ‘memperuntukkan duit untuk membeli makanan asas dan makanan kurang digemari’ dan ‘mengurangkan bilangan sajian makanan dalam sehari’. Isi rumah yang tidak cukup makanan (26.95 ± 22.13) lebih cenderung untuk menggunakan strategi mengatasi masalah ketidakcukupan makanan berbanding isi rumah yang mempunyai cukup makanan. Seterusnya, kajian ini juga menunjukkan status pemilikan rumah, pendapatan isi rumah dan perbelanjaan makan dan minum dalam sebulan merupakan faktor yang mendorong masalah sekuriti makanan dalam kalangan penerima bantuan TLFP. Kajian ini menyimpulkan bahawa pendapatan isi rumah, perbelanjaan bulanan bagi makan dan minum dan status pemilikan rumah adalah berhubung kait dengan status sekuriti makanan sesebuah isi rumah dan penggunaan lebih banyak strategi mengatasi adalah untuk mengurangkan masalah sekuriti makanan itu. Kesimpulannya, kajian lebih terperinci terhadap keberkesanan bantuan TLFP terhadap isi rumah penerima wajar dijalankan agar dapat membantu TLFP meningkatkan status sekuriti makanan rakyat di Malaysia.

CHAPTER 1

INTRODUCTION

1.1 Background of the study

Food security can be defined as “a situation that exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preference for a healthy and active life” (FAO, 1996). There are four dimensions of food security which are availability, accessibility, utilization and stability. All of these four dimensions need to be fulfilled to ensure that an individual has access to healthy and nutritious food.

Our world is still facing the food insecurity problem, in both developed and developing countries, and it has become one of the greatest concerns, especially when the COVID-19 pandemic strikes within these few months due to the disruption in food system (Erokhin and Gao, 2020). Food insecurity has become one of the major issues in both developed and developing countries, especially in urban areas, where the global urban population (54% in 2020) is projected to increase to be 60% by 2030 (Knorr et al., 2018).

The fast spread of the COVID-19 pandemic has increased the potential risk of severe food insecurity, which has risen from 135 million in January 2020 to 265 million by the end of the year (Dongyu, 2020). According to FAO et al. (2020), this pandemic might potentially increase the total number of undernourishment in the world between 83 to 132 million depending on the economic growth situation. This might have an impact on the second goal in Sustainable Development Goals (SDG), which is “Zero Hunger” to be achieved by 2030.

As in 2019, Asia has to become the home for undernourished people around the world as there is an estimated around 380 million people suffers from moderate to severe food insecurity problem (FAO et al., 2020). This may apply to the Malaysian context as well, where 50.6% of Chinese households in PPR Air Panas, Kuala Lumpur were in food insecurity status either household insecure, individual insecure or child hunger (Yong & Norhasmah, 2016).

Several researchers have revealed that food insecurity problems among households could lead to malnutrition problems, especially among children, such as stunting, wasting, underweight and overweight problems (Ijarotimi & Erola, 2018). Moreover, it is also could influence the quality of life of an individual (Russell et al., 2016); thus, as the long term consequence of food insecurity, it will affect his or her productivity in life.

There are many factors that could contribute to the household food insecurity problem, such as mother's age (Mortazavi et al., 2017), marital status (Ebadi et al., 2018; Tarasuk et al., 2019), and education level (Abdullah et al., 2019), employment status (Chang et al., 2017; Smith et al., 2017), household size (Nyangasa et al., 2019), number of children (Noratikah et al., 2019), household income (Pakravan-charvadeh & Mohammadi-nasrabadi, 2020), total expenditure on food and non-food products, child's age (Schmeer & Piperata, 2017) and gender (Moffitt & Ribar, 2018). Besides that, nutrition knowledge and receiving food assistance also have been shown to have effects on the household food security status. This is because high nutrition knowledge will eventually improve the utilization of the food (Beavis et al., 2019; Godrich et al., 2017); meanwhile, receiving food assistance will help them to have access to the food in order to meet their daily requirement (Mabli & Ohls, 2015).

Nowadays, there are many organizations, either government or non-government organizations plan strategies to combat food insecurity problem from becoming worse. One of the strategies is by providing food assistance to the affected population, especially the low-income household or Below 40 (B40) population. The government have taken the initiative to establish the food bank and food basket program to help Malaysians to consume sufficient and nutritious food. Meanwhile, a non-government organization such as The Lost Food Project (TLFP) have the same objective, which is to eliminate hunger in Malaysia. The Lost Food Project (TLFP) was established in 2016 to help to eradicate hunger, at the same time tackling the problem of food waste and environmental sustainability. In this context, TLFP will be the 'middle man' between the local farmer or supermarket to distribute the excess food to the population who need it most, especially those who come from low-cost flats or People Housing Projects (PPR) in Kuala Lumpur and Selangor area. However, there is still no scientific research conducted among those who received TLFP products and their food security status whether TLFP does improve their food security status or not.

1.2 Problem statement

Our world is facing a food loss and waste problem in which about 1.3 billion tons of food is lost or wasted annually, and only one-third of the food production is used for human consumption (FAO, 2011). The Food and Agricultural Organization (FAO) defined food loss as “the decrease in edible food mass throughout the part of the supply chain that specifically leads to edible food for human consumption”. Meanwhile, food waste can be defined as “the food losses occurring at the end of the food chain (retail and final consumption)” (Parfitt et al., 2010). In other words, food loss is food that is being spoiled before reaching its final products or retail stage, and food waste is food that is not consumed and being discarded by humans even though it is still in its good quality.

According to the Global Food Loss and Food Waste Report (FAO, 2011), Europe and North America experienced 280 to 300 kg/year per capita of food loss compared to 120 to 170 kg/year in sub-Saharan Africa and South or Southeast Asia. However, Europe and North America’s total per capita production of edible parts of food for human consumption has achieved about 900 kg/year compared to sub-Saharan Africa and South or Southeast Asia was only about 460 kg/year. This has shown that more food is being wasted in medium and high-income countries; meanwhile, in low-income countries, food is being lost at the early and middle stages of the food supply chain before reaching the consumer level; besides, less food is being wasted after reaching the consumer. In the Malaysian context, about 4005 tons of edible food have been discarded in landfills daily, and 44.5% of wastes are coming from food (SWCorp, 2017). With this 4005 tons of avoidable food waste, it can feed almost 3 million people three times a day.

Approximately 690 million people reported hunger in 2019, according to the latest edition of the State of Food Security and Nutrition in the World (FAO, 2020). Several organizations have taken the initiative to reduce the incidence and prevalence of food security problems among the Malaysian population such as The Lost Food Project (TLFP). TLFP is a non-profit organization that was founded in 2016 to tackle the problem of food waste, environmental sustainability and hunger. TLFP rescues quality, nutritious food that would otherwise end up in the landfill and redistributes this food and other essential items to those who are in need regardless of religion, gender, age, disability or ethnic group. TLFP includes redistributing quality surplus food from several supermarket chains and food manufacturers such as fruits and vegetables to selected People's Housing Project (PPR). Through this food redistribution, TLFP aimed to help families with low income redirect their limited resources to other essentials like health care and education. A total of 7510 families living in PPR receiving the redistribution of foods from TLFP with 564,467 kg of surplus food being rescued from 12 food donors participated in TLFP (TLFP Strategic Plan 2019-2021, 2018). Besides, involving in TLFP can also be one of the coping strategies adopted by the households to reduce the impact of food insecurity within the particular households.

Along the four years of being implemented, there has been limited study involving food security status among food assistance recipients especially among TLFP recipients and their coping strategies to mitigate with the food insecurity problem. Therefore, there is a need to determine the food security status and its coping strategies among households who received TLFP products.

Research Questions:

1. What is the socioeconomic background, nutrition knowledge and food security level of households who received TLFP products in selected low-cost public housing in Klang Valley?
2. What is the coping strategies adopted by households that received TLFP to mitigate the food insufficiency and alleviate food insecurity?
3. Is there any difference in coping strategies between those food secure or food insecure households?
4. Are there any associations between socioeconomic background, nutrition knowledge, food assistance and food security status?

1.3 Significance of the study

This study will provide data on the evaluation on overall satisfaction, how useful TLFP products are towards their households and how significant the products are to their daily life. There is a lack of evidence for evaluating this food assistance program based on the number of food items received as a tool to reduce the prevalence of undernourishment (PoU) due to low food security status. Thus, this study shall strengthen and support the program's plan and strategies with evidence found in this study.

Besides, this study is also in line with the key elements in NPANM III 2016-2025, which give greater emphasis in ensuring food and nutrition security according to the ASEAN Integrated Food Security (AIFS) Framework & Strategic Plan of ASEAN on Food Security (SPA-FS) in Asian region 2015-2020. Therefore, by determining the food security status of the TLFP recipients and their coping strategies, it will eventually improve its implementation strategies in creating a food secure environment within the Malaysian population, thus achieving the AIFS framework and SPA-FS 2015-2020's goal.

This study also will determine the importance of nutrition knowledge towards an individual's food security in which could be a strategy for this program to incorporate education programs specifically on nutrition knowledge to the program recipient. This is because a few studies have proved that higher nutrition knowledge could have the best impact of food assistance programs on how to fully utilize the food provided to them (Pakravan-Charvadeh & Mohammadi-Nasrabadi, 2020; Khorramrouz et al., 2020 and Meiklejohn et al., 2017). The insight from this study

could also be a plan of action in enhancing the program effectiveness in which will have an impact on the current 7,510 families (TLFP 2019-2021 Strategic Plan, 2018).

1.4 Objectives

1.4.1 General objective

To determine the food security status and its coping strategies among households who received The Lost Food Project (TLFP) in selected low-cost public housing areas in Klang Valley.

1.4.2 Specific objectives

1. To assess the socioeconomic background (age, marital status, education level, employment status, home ownership status, number of households, number of working households, number of households who is still studying, household income, foods and drinks expenditure), nutrition knowledge, food assistance, and food security status of households in selected Klang Valley's low-cost public housing area.
2. To determine the coping strategies adopted by households that received TLFP products to mitigate the food insufficiency and alleviate the food insecurity.
3. To compare the means of coping strategies score between food secure and food-insecure households.
4. To determine the association between socioeconomic background (age, marital status, education level, employment status, home ownership status, number of households, number of working households, number of households who is still studying, household

income, foods and drinks expenditure), nutrition knowledge, food assistance (number of food items received) and food security status among households who received TLFP products.



1.5 Research Hypothesis

1. There is a significant difference in coping strategies scores between food secure and food-insecure households.
2. There are associations between socioeconomic background, nutrition knowledge, food assistance (type of food received) and food security status of households who received TLFP products.



1.6 Research framework

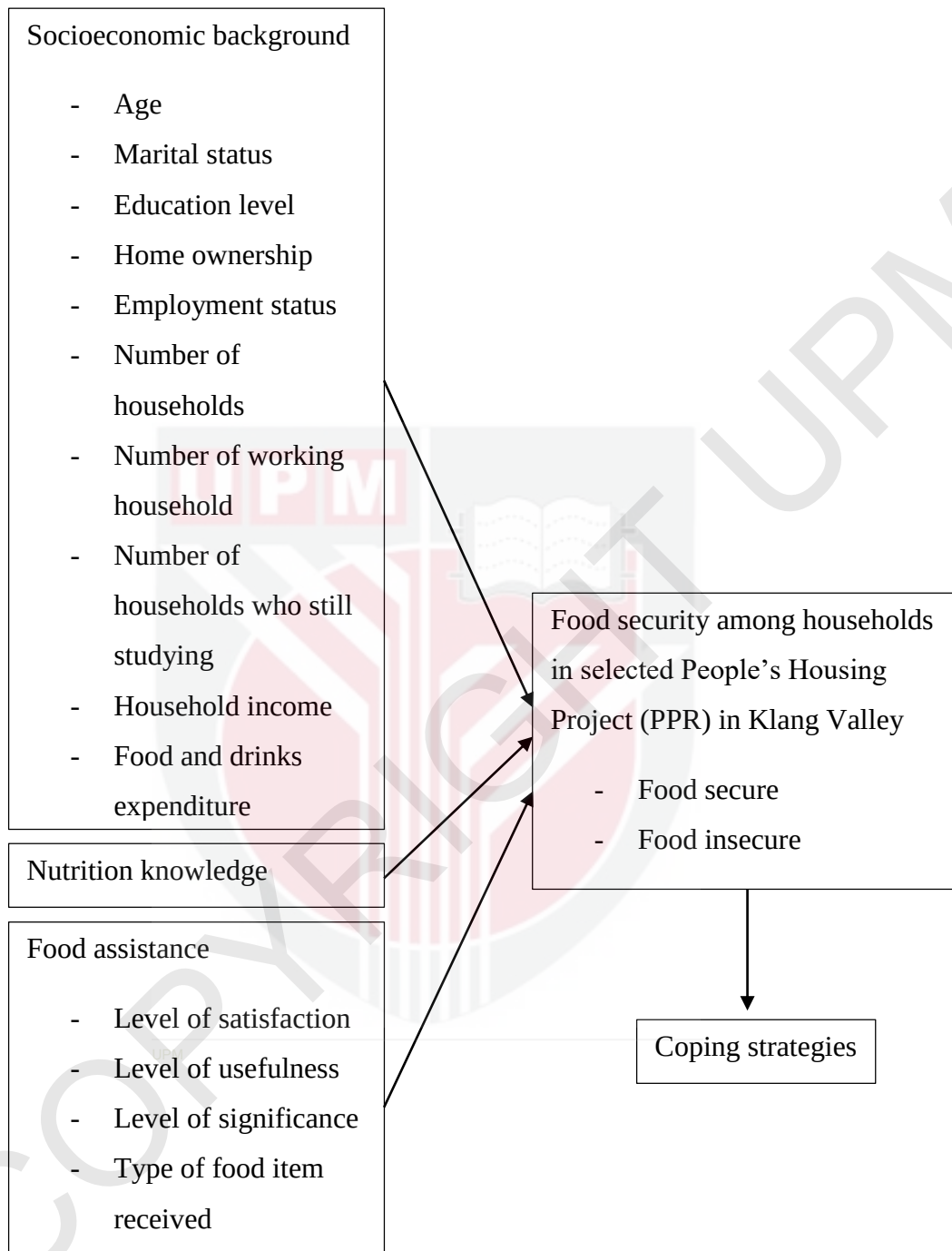


Figure 1. Research framework.

CHAPTER 2

LITERATURE REVIEW

2.1 Food security

Global has experienced food security problems from a few years back, and only a little positive progress has been shown by several regions in the world in terms of accessibility to food. Few definitions of food security have been discussed by several researchers. For example, Pinstrup-Andersen (2009), in his study, said that food security can be defined as “enough food is available whether at the global, national, community or household level”. An expert panel in the Life Sciences Research Office (LSRO) defined food security as accessibility to enough food for active, healthy life (National Research Council, 2006; p43). The term “food security” was originally to explain the accessibility of a country towards enough food over time (Pelletier, Olson, and Frongillo, 2001; Rose, Basiotis, and Klein, 1995). However, several terms used in the definition need to be further clarify to provide a clear and precise definition of food security. In the World Food Summit in 1996, Food and Agriculture Organizations (FAO) has further amplified the definition of food security to “a situation that exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food to meet their dietary needs and food preference for a healthy and active life” (FAO, 1996). This definition consists of four dimensions which are availability, stability, accessibility and utilization.

Food insecurity is one of the challenges that continue on the rise since 2014. As reported by FAO (2020), in 2019, it is estimated that one in ten people, which is slightly less than 750 million people in the world, experienced severe food insecurity

status and about 1.25 billion people experienced moderate food insecurity status. From this value, Asia (1.03 billion) has the highest number of people suffering from severe or moderate food insecurity, followed by Africa (675 million), Latin America and the Caribbean (205 million), Northern America and Europe (88 million) and Oceania (5.9 million). Food insecurity can be measured by the number of undernourished people and prevalence of undernourishment (PoU), and South Asia has been reported that it has shown a downward trend from 2005 until 2017 (FAO, 2018). In 2017, the number of undernourished people had decreased by less than a million compared to 2016 (FAO, 2018). Even though it shows a reduction in the number of undernourished people, however, the progress in achieving the zero hunger target by 2030 based on Sustainable Development Goal can be seen to be dilatory.

Furthermore, the Institute of Public Health Malaysia (Aris et al., 2014) had conducted the Malaysian Adult Nutrition Survey (MANS) in 2014 in which revealed that 24.95% of Malaysian adults ever experienced food quantity insufficiency due to financial constraints in the past 12 months and 39.24% of them are from East Malaysia compared to 21.13% in Peninsular Malaysia. Besides, 33.50% lives in rural areas compared to 21.19% lives in the urban area. The survey also showed that higher prevalence of food insecurity presents in East Malaysia, rural areas, Bumiputera Sarawak, low education level, low income and individuals who work in non-government sectors.

Due to the COVID-19 pandemic, the food insecurity problem has becoming worsen where FAO estimates that the total number of undernourished in the world will be increased between 83 to 132 million in 2020 due to the effect of pandemic (FAO et al., 2020). However, a study in Sarawak found that most of the households were food secure because they applied more coping strategies as short term responses

to abnormal food tension such as switching their food sources, shopping online and going without their preferred food (Abdullah et al., 2021). A study by Pakravan-charvadeh & Mohammadi-nasrabadi (2020) also found that there was a slight increment of percentage of food secure household after the COVID-19 pandemic (43%) compared to before the pandemic (35%) and 17% of the households experienced worsened food security.

Despite the declination in the number of food insecurity problem during the pandemic, the low income households still try to mitigate the problem by applying more coping strategies in their daily life especially regarding the food intake. Based on the study by Ibrahim & Othman (2020), 83.3% of low income households (B40) buy goods in stores that offer low prices, 32.6% were collecting vegetables around the house area to be used as food and 26.9% do online businesses. Another local study by Norhasmah et al. (2011) reported that there were about 68.1% of the respondents from rural and urban area in Kelantan experienced food insecurity problem. Kharisma & Abe (2020) also reported that about 27.4% of the low income households staying at urban area such as Jakarta, Bandung and Surabaya were food insecure.

Food insecurity can possess risks towards our health such as malnutrition (Kaiser et al., 2019 and Sinha et al., 2018), stunting problem (Momanyi et al., 2019), type 2 diabetes mellitus (Bermúdez-Millán et al., 2019; Kaiser et al., 2019; Strings et al., 2016), mental health such as psychological distress (Allen et al., 2018 and Romo et al., 2016) and increase the risk of kidney stone (Shafi et al., 2017). Besides that, Hamed-Shahraki et al. (2020) also mentioned that there are significant associations between the prevalence of hyperglycemia, hypertension, general and abdominal obesity among Iranian's reproductive-aged women who experienced food insecurity

compared to food security. All of that health conditions are the risk factors for cardiovascular diseases.

Therefore, these indicate that the severity of food insecurity among low income households need to be intervened by a strategy such as providing food assistance to those in need. This is because food assistance program may improve their food security status, thus improving their diet as well as health outcomes.

2.2 Association between socioeconomic background and food security status

International Monetary Fund (IMF) stated that the world economic growth has reported decreasing from 2.9% in 2019 to 3.6% in 2018 due to the slower growth of the economy in either developed countries such as the USA, Germany, France, and Japan or developing countries such as China, South Korea, Singapore, Thailand, Philippines, Indonesia and Malaysia (IMF, 2019 and Department of Statistics Malaysia, 2020b). Apart from that, Malaysia has shown a slight reduction in the gross domestic product (GDP) from 4.8% in 2018 to 4.3% in 2019 (Department of Statistics Malaysia, 2019b). The inflation rate in Malaysia has been declared to reduce by 0.3% from the previous year (1.0% in 2018 to 0.7% in 2019). Besides that, Selangor has shown to be the highest contributor to the national economic growth, which is 24.2%, followed by Wilayah Persekutuan Kuala Lumpur (16.4%), Sarawak (9.6%) and Johor (9.4%) (Department of Statistics Malaysia, 2019b).

Since Selangor is the highest contributor to the national economic growth, it is well-known as “The Golden State of Malaysia”. It creates more job opportunities for a lot of people from other states and international job seekers to migrate to these

states. Based on the Migration Survey Report 2018 (Department of Statistics Malaysia, 2019c), both Selangor and W. P. Kuala Lumpur have been shown to have the highest immigration rate in which could lead to the increment of population density. Due to the higher population density, Selangor has been reported to contribute towards the higher domestic demand, especially in food products; thus, many factories are developed to meet the demands (Department of Statistics Malaysia, 2019b). Therefore, it leads to the rapid urbanization in Selangor and W.P. Kuala Lumpur area.

Moreover, higher purchasing power is shown among the Selangor population due to the higher average household income (RM10,827) and average expenditure (RM5,830) (Department of Statistics Malaysia, 2019a). In 2019, the average income inequality has become wider (Gini coefficient value = 0.393) compared to 2016 (Gini coefficient value = 0.372). This indicates that the distribution of household income in Selangor is imbalanced. This is supported by the Household Income and Basic Amenities Survey Report (HIS & BA) 2019 (Department of Statistics Malaysia, 2019a); even though the average household income increases, the absolute poverty incidence in Selangor had increased from 0.8% in 2016 to 1.2% in 2019 and the state of Multidimensional Poverty Index (MPI) had decreased from 0.0008 (0.08%) points in 2016 to 0.0007 (0.07%) in 2019.

Furthermore, poverty status can be determined by the Poverty Line Income (PLI). PLI consists of two items, which are food and non-food items. The new methodology was updated by DOSM according to the Ministry of Health (MOH) advice. The new methodology emphasized the healthy food intake or optimum minimum compared to the previous methodology in 2005, which emphasized the minimum requirement of food consumption only. Food PLI is evaluated based on

the Recommended Nutrient Intake (RNI) 2017 and Malaysian Diet Guidelines (PDM) 2020. The food items will be compared to the food item price data from Consumer Price Index (CPI). Meanwhile, non-food PLI will be calculated according to the pattern of expenditure patterns of low-income households in the Household Expenditure Survey (HES). Therefore, if the total household income is below the PLI value, the household is considered absolute poor; meanwhile, if the total household income is below the Food PLI, the household is considered hardcore poor. Different values of PLI will be applied to different locations and states after considering the price difference in each state. The PLI value per month in Selangor is RM2,022, and W.P. Kuala Lumpur is RM 2,216 (Department of Statistics Malaysia, 2019a). Thus, any household income below this value will be considered absolute poor.

Inflation tends to be higher in more urbanized states and low-income groups. W.P. Kuala Lumpur, Selangor, Putrajaya, Pulau Pinang and Johor is classified as highly urbanized states in Malaysia, and the inflation rate of household in these states is higher than the national average in 2016. This might be due to the increment of the average price level of a basket of selected goods in which reduce their purchasing power in some period of time. Besides, this situation can be seen in the bottom 40% (B40) households in which experienced an inflation rate of 0.12 to 1.12 percentage points higher compared to the top 20% (T20) of the income group in 2016 (BNM, 2016). According to the Department of Statistics Malaysia (2020a), the bottom 40% is classified among those who gain household income less than RM6,960, middle 40% (M40) is classified among those who gain RM6,960 up to RM14,439; meanwhile, top 20% (T20) is classified among those who obtain a household income of RM14,440 and above. Due to the lower household income,

B40 faced higher inflation in 2016 (3.9%) due to the higher food inflation as they invest a greater percentage of their expenditure on food (BNM, 2016 and Department of Statistics Malaysia, 2020a). Therefore, B40 households living in highly urbanized states tend to face a higher chance of inflation compared to T20. However, this is contradicting with the report by HIS & BA 2019 (Department of Statistics Malaysia, 2020c) in which stated that the income rate is higher than the inflation rate. Thus, it indicates that inflation is not a factor that contribute to the increase of cost of living.

The level of urbanization in city areas has achieved 76.2% and 23.8% in the rural area. Urbanization has been shown to increase the cost of living, especially in the more urbanized state (Turok & McGranahan, 2013). Higher costs of living in cities will lead to higher average household expenditure. This is shown in the Household Expenditure Survey (HES) 2019 by the Department of Statistics Malaysia (2020), the mean monthly household consumption expenditure in W.P. Putrajaya is RM7,980, followed by W.P. Kuala Lumpur, which is RM6,913 and Selangor, which is RM5,830 and it has been revealed that *food and non-alcoholic beverage* categories (17.3%) is one of the highest household consumption expenditure after *housing, water, electricity, gas and other fuels* categories (23.6%). This has been demonstrated in the Socioeconomic Report of Selangor 2019, where the Consumer Price Index (CPI) has increased slowly from 0.9% in 2018 to 1.1% in 2019 (Department of Statistics Malaysia, 2019b). The increment of CPI, especially in highly urbanized states, will contribute to increment of prices specifically to *food and non-alcoholic beverage, restaurant and hotels, education and recreation services and culture* categories (BNM, 2016). In this case, B40 will limit their food consumption and prioritize other basic amenities and demands.

Besides, the increase in the price of food will also affect household expenditure in which will affects the food security of a household (FAO, 2018).

As explained by Wahab et al. (2018) in a study based on secondary data from HES 2014, B40 spends more on food by 26.5% (24.2% in HES 2019). The issue of the high cost of living is not due to the higher demand towards the aspirational lifestyle, but it is due to the changes in the market and their financial situation. They are more affected due to changes in market price. On the other hand, M40 are the ones who always have a higher risk in handling higher living costs. This is because more high quality and expensive choices are available in the city area in which encourage them to spend more than their own capability or power. The same goes applied to M40 (18.0% in HES 2019) in the rural area where they spend more on high quality and healthy food despite the lower supply available in that area. Lower supply will lead to higher market prices, thus increase household expenditure (FAO, 2018). Meanwhile, T20 are the one who is least affected by the higher cost of living because this group already have the basic amenities and unnecessary to spend more to meet their daily requirement. This group also spend the least on food compared to the other two groups (12.6% in HES 2019). Thus, this shows that B40 and M40 have a higher chance of food insecurity compared to T20 as they are more likely to be affected during the changes in market price.

2.2.1 Head of household and mother's age

Other than external factors such as national economic growth and urbanization, there are several internal factors in one particular household that could affect their food security status. One of the factors is the head of the household and the mother's

age. Mothers are the ones who play a bigger role in the food preparation of their household. She also will ensure that the food security of the household in terms of and utilization of food. Meanwhile, the father or male as the head of the household is considered responsible for the availability, stability, accessibility of food in a household (Abdullah et al., 2019). According to Mortazavi et al. (2017), it is demonstrated that there is a significant difference between the mother's age and the food security status of a household. The study reported that mothers who are under 26 years of age were less likely to experience food insecurity with moderate and/or severe hunger compared to mothers who are over 35 years of age with 60% odds. This indicates that the younger the head and mother of the household, the lower the severity of food insecurity.

However, a study has shown a contradict result in which even though the household head's age was also have shown to be directly associated with food security and diet diversity, it claims that the older head of household will have lower food insecurity (Pakravan-charvadeh & Mohammadi-nasrabadi, 2020). This is because the older head of the household could be more aware and have a better knowledge of food quality and food choices, thus reduce the risk of food insecurity among the household itself.

2.2.2 Marital status

Marital status is also reported to influence the food security status of a household. Several studies have revealed that female lone-parent households and single households had higher exposure to the risk of food insecurity. This is

supported by secondary data from the 2011-12 Canadian Community Health Survey with 120,909 participants (Tarasuk et al., 2019). This study shows that both female lone-parent households and unattached individuals had significantly higher odds of severe food insecurity compared to couples without children, couples with children, lone male parents and others/missing. This is because the spouse of a married couple may offer financial, emotional, time and other core benefits to their partners (Sinclair et al., 2019). Moreover, a study by Ebadi et al. (2018), which involved 68,463 participants from 60 countries, states that divorced or separated and widowed are less food secure compared to a single and married couple. Divorced women also had higher odds of being food insecure compared to married women (Dallmann, 2016). Meanwhile, a study conducted by Omotayo et al. (2018) stated that married household has a higher likelihood to become food insecure because the married household is more likely to have larger household in which could increase the expenditure on food.

2.2.3 Education level

Education is one of the significant factors that influence the food security status of a household. A positive association can also be seen between education level and food security status, and the higher the education level, the more food secure the household will be (Abdullah et al., 2019). This is because higher education is highly possible to obtain higher-paying jobs that will improve one's household income. Besides, the same study claims that higher education indicates that they have higher awareness and knowledge in food preparation. Other than that, household who is illiterate and only attend elementary education is proved to have the highest percentage of food insecurity with moderate and severe hunger (Mortazavi et al.,

2017). This is because illiterate limits the job opportunities, thus reduce the household income resources. Low literacy level will also affect their nutrition literacy level and intensify household food insecurity (Payab et al., 2012). The reason for this is that nutrition literacy is related to all stages, from shopping in the market, preparation, cooking, and consumption of food of a household. Education is also important to mothers because higher education of the mother is also shown to have higher diet diversity scores and reduce the incidence of childhood undernutrition (Ali et al., 2019).

2.2.4 Employment status

Employment status can be directly related as a source of household income. This is because having a job, especially a full-time worker, could eventually obtain a salary which could spend it to the household expenditure, especially on food (Abdullah et al., 2019). Unemployed or jobless are shown to have a higher probability of being food insecure compared to an employed household (Smith et al., 2017 and Chang et al., 2017). A study by Mortazavi et al. (2017) highlights that employment of the mother of the household could increase the household income level and increase their purchasing power. This evidence is supported by statistics released by the Department of Statistics Malaysia (2019a), where Selangor have shown to have a higher purchasing power due to higher household income. In addition, Ali et al. (2019) demonstrate that working mothers could have greater power on food choices compared to housewife because she has higher accessibility and affordability towards food purchasing.

2.2.5 Household size

Another factor associated with food security status is household size. Several studies have reported that larger household sizes are shown to increase the food insecurity of households (Mortazavi et al., 2017; Olabiyi, O. M., McIntyre, 2016 and Olayemi, 2012). Larger household size will also increase the demand for food. Insufficient food supply within a larger household frequently happens in orang asli in Gerik, Perak, who live in an extended family in a single house (Gan et al., 2020). This is certainly will affect their food security status within the household. The same evidence was reported in a study by Omotayo et al. (2018) among farming households, where the larger the household size, the higher the probability of the household being food insecure.

However, the food security status in a larger or smaller household depends on the number of members of the household who contribute to the income or food, and it also depends on the accessibility of food. For example, according to a study by Nyangasa et al. (2019), they stated that larger households with poor accessibility to food are more likely to experience severe food insecurity compared to the smaller household, while a larger household with better accessibility to food is less likely to be severely food insecure.

2.2.6 Number of children

In addition, the number of children will also affect the food security status of a household. This is because a high number of under-five children in a household will eventually increase the income burden of the household in order to provide diverse food for them (Onyeneke et al., 2019). This will then impact their diet due

to a reduction in diversity and quality of food. This study is also supported by Noratikah et al. (2019) in a study on 129 women located in Pahang where it demonstrates that if the number of children in a household is more than three children, then the household is more likely to experience food insecure due to the increment in the household expenditure such as children's school expenditure. This situation will more or less force the mother to choose a low quality and low nutritious food due to its affordability. This study also states that the quality of the food will also reduce because there are more people who share the same meal at the same time (Noratikah et al., 2019). Another study reported that food security with moderate and severe hunger in a household with children under 18 years old have approximately 15 times higher odds than a household without children under 18 years old (Mortazavi et al., 2017). Nonetheless, a limited study is reported showing that a higher number of children in a household might contribute to higher income earning, thus improved the food security status in future (Onyeneke et al., 2019).

2.2.7 Household income

Many studies have shown a positive association between household income and the food security status of a household (Pakravan-charvadeh & Mohammadi-nasrabadi, 2020; Adeniyi and Dinbabo, 2019; and Hosseini et al., 2017). A study also expected that increase in household income could be one of the strategies to improve food security status within a household (M. H. Ahmad et al., 2020). Based on a study by Smith et al. (2017), household income has been one of the largest magnitudes of determinants of severe food insecurity, and with the 10% increment in household income, the probability of severe food insecurity could be lowered by

0.3 percentage point. This is because the low-income person will opt for low variety and experience low insufficiency of food due to the lack of money to spend on nutritious food requirements (Asghar & Muhammad, 2013; Danquah, 2010 and Kirkpatrick, 2008). Fixed income may also contribute to lower rates of food insecurity (Kaiser et al., 2019). Nonetheless, the total household expenditure could also be one of the factors that contribute to food insecurity despite the income per se.

2.2.8 Total food and drinks expenditure

Another factor affecting the food security status of a household is total expenditure. Noratikah et al. (2019) also reveal that the prevalence of food insecurity is higher among low-income people with high commitments such as children's school expenditure, housing payment, transportation and household goods. This is also supported by statistics from the Department of Statistics Malaysia (2020b), in which the highest consumption expenditure is spent on housing, water, electricity, gas and other fuels (23.6%), followed by food and non-alcoholic beverages (17.3%). The high living cost might be one of the reasons for food insecurity. Higher living costs in urbanized areas will eventually increase the total expenditure of a household. This is because the higher living cost will increase the price of food available in the market. The increased price of food will affect the food choices, especially in a low-income household. This can be seen from a study in New Zealand where the household with minimum income or income support and household who use half of their income to purchase a healthy diet would undergo food stress (Mackay et al., 2018). Thus, the price of healthy food has become a

perceived barrier towards its accessibility in which will lead to a food insecurity problem.

2.3 Association between nutrition knowledge and food security status

Nutrition knowledge can be characterized as the understanding of the fundamentals of food and nutrition information (Alaunyte et al., 2015; Feren et al., 2011; Whati et al., 2005; Parmenter & Wardle, 1999). It can also be defined as the knowledge of nutrition- and health-related concepts and methods, particularly in knowledge of diet and health, diet and disease, major nutritional sources of food and dietary guidelines and recommendation (Axelson & Brinberg, 1992; McKinnon, Giskes, & Turrell, 2014; Moorman, 1996)

Nutrition knowledge has been shown to have an impact on an individual's food security status. For example, parents should have high nutrition knowledge because they are responsible for their children's food security. As stated by Onyeneke et al. (2019), a low level of nutrition knowledge on the importance of feeding children with an animal-based diet may have led to a low intake of beef, snail, egg and diverse type of food for Nigerian children under five years of age. Since parents are the ones who will provide food to their children, the choices of food made by their parents are important in order to ensure the availability of certain food at their home. Thus, this may contribute to low intake of certain food in which may lead to food insecurity. It is also supported by Wolfson et al. (2020) in a study based on Original Child Development Supplement (CDS) data from 1997 to 2017 in which high nutrition knowledge among parents are associated with a lower risk of being food insecure once the children reached young adulthood.

Furthermore, nutrition knowledge will also influence the food security level within the household itself. Pakravan-Charvadeh and Mohammadi-Nasrabadi (2020) clarified that nutrition knowledge was positively associated with food security status before and during the COVID-19 outbreak. Consistent with this study, another study conducted by Khorramrouz et al. (2020) also reported that students with a lower level of nutritional knowledge in which less able to understand food and nutrition information are more likely to experience household food insecurity. Besides, utilization of food can be measured through the level of basic food and healthy eating knowledge within a household and skills that allow them to fully utilized the food, such as cooking skills (Beavis et al., 2019 and Godrich et al., 2017). According to Meiklejohn et al. (2017), evaluation of the FoodMate program has shown that increment in nutrition knowledge could lead to improvement in food security status.

However, there is a study in Ghana showing that there is no positive association between nutrition knowledge and food security. Even though the elderly in urban Ghana have shown high nutrition knowledge, but about 60% of them are reported to be food insecure. Thus, Agbozo et al. (2018) concluded that the food security status highly depends on the availability of food and not necessarily on nutrition knowledge.

2.4 Association between food assistance and food security status

Apart from socioeconomic background and nutrition knowledge, the presence of food assistance also may be the contributor to the food security status of the community. Food assistance can be defined as all actions undertaken by national

governments, mostly in conjunction with non-governmental organizations (NGOs) and representatives of civil society and with external aid to increase the nutritional well-being of their community who may not otherwise have access to enough food for a healthy and active life (FAO, 1996). United Nation has conducted the World Food Programme (WFP) in which focusing on delivering food aid during emergencies such as pandemics, drought, floods, earthquakes, crops failure and to the victims of conflicts besides collaborating with the community to improve nutrition and build resilience.

Since Asia has the highest prevalence of food insecurity among the population, they have raised concern about this issue, and most of the developing Asian countries, either from government or non-government organizations, have taken initiatives to construct a strategy to reduce the number of people who have low food security status. Several programs have been done in certain countries such as the Vulnerable Group Feeding Program in Bangladesh, Tindahan Natin (Our Store) Program in the Philippines, Food Stamp Program in Mongolia, Home Grown School Feeding Initiative in Cambodia, Raskin program in Indonesia, and Voucher program in Afghanistan (ADB, 2013; and Never an Empty Bowl: Sustaining Food Security in Asia, 2010). All these programs are targetting the most vulnerable groups, especially children, women and older adults.

United States is currently managing several food assistance programs such as the Temporary Emergency Federal Assistance Program (TEFAP), Supplemental Nutrition Assistance Program (SNAP), which provide a debit-like card for those in need to buy groceries, Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) which supply healthy foods to low-income pregnant women, nursing women and young children; and Commodity Supplemental Food

Program which provide healthy food to older American citizens. Several studies have found that these programs, especially SNAP are effective in improving their food security status. For example, according to Mabli & Ohls (2015), food insecurity has been reduced from 4.2 to 11.1 percentage points, and very low food security also has been reduced from 4.6 to 7.4 percentage points after SNAP participation. This is also supported by Bronchetti et al. (2017), in which an increment of 10% in SNAP purchasing power lower the probability of a child being food insecure by 6.7 percentage points, where 21.8% reduction relative to the mean. It is also indicated that those in the SNAP group had a lower chance of household food insecurity, child food insecurity and health cost sacrifices (Cuba et al., 2019). However, an analysis showed no substantial decrease in food insecurity or increase in diet consistency among SNAP participants over a span of 3 months relative to program applicants (Leung et al., 2014).

Meanwhile, in Malaysia, there are several food assistance programs from different organizations, either government or non-government such as Supplemental Food Plan (RMT), 1 Malaysia Milk Program (PS1M), Program for the Rehabilitation of Malnourished children (PPKM), Supplemental Food Program of Full Cream Milk Powder, Community Feeding Program with Orang Asli children, Program Titipan Kasih (Food Basket) and Balance Supplement Food Program from government initiatives. Yayasan Food Bank Malaysia, Food Aid Foundation and The Lost Food Program are examples of initiatives from the NGOs. A case report on a 3-year old Temiar boy from a tribal village in Perak revealed that there is a slight increment of his body weight gain (1.0kg) after enrolling in the 7-month Food Basket Programme (Rasid et al., 2019). After enrolling in the program for the second time, his mother was told about the importance of nutritious food and the

use of food baskets, especially how to correctly dilute the milk, besides being offered about the importance of immunization. This also proved that a food assistance program might be effective in improving the health status of an individual, especially in children.

A food assistance program is a program in which collaborate with several food donors, especially local farmers and large supermarkets. They are the main sources of food supply before food being distributed to the selected population in need. Food security emphasizes access towards nutritious food to meet their dietary needs and food preference in order to lead a healthy and active life (FAO, 1996). Specific criteria of food are not available for those with obesity and other diet-related challenges such as diabetes, hypertension, or hypersensitivity. All of the participants are provided with food but not appropriate to their diet and needs (Cooksey Stowers et al., 2020). Thus, the food supply might be coming from any type of food and not particularly nutrient-dense food only. Nevertheless, a study reveals that the food assistance program such as Double-Up Food Bucks, which involves farmers as the donor and SNAP participants as recipients, have shown to be effective in improving the fruits and vegetables intake among SNAP participants in Utah. 86% of participants declared that there is an increment of fruits and vegetable intake, and 84% declared that there is an increment in the diversity of fruits and vegetables consumed (Savoie-Roskos et al., 2016).

2.5 Coping strategies with food security status

Several coping strategies have been adopted by households to minimize the impact of food insecurity and sustain the food availability within a particular household. It is important to consider these strategies implemented by the

household or micro level and know how they cope with the food insecure situation. There are two (2) types of coping strategies, which are positive and negative coping strategies. Positive coping strategies can be classified when the household tend to allocate money for their food cost—for example, purchasing food on credit, requesting money from relatives, engaging in odd jobs, delaying the bill payment and others. Meanwhile, negative coping strategies can be classified when the household restrict the consumption of food in order to fulfil the other basic necessities such as rental payment and children's education fee—for example, using less preferred food, reducing the number of meals eaten in a day, allocating money to buy staple and less preferred food and others. However, certain coping strategies such as pawning of assets in which can improve food availability was also being classified as negative coping strategies as it may increase the chance of involving in the food-insecure situation because they may end up losing their property and struggles to pay for the high interest.

Besides that, coping strategies can also be in the form of food-related and non-food related. Food-related coping strategies are temporary or short term strategies by the adjustment of eating patterns; meanwhile, non-food-related coping strategies are long term strategies by planning for income and expenditure (Norhasmah, 2010). According to Nurfahilin and Norhasmah (2015) and Sanusi et al. (2018) stated that most households tend to choose less expensive food when they are in a food-insecure situation. This is also supported by Asesefa Kisi et al. (2018), where one of the coping strategies used by the pensioner in Southwestern Ethiopia is to eat less preferred food, lower the quality or less expensive food (72.4%) followed by reducing the number of meals consumed in a day (62.4%) and reducing the consumption of food during each meal. Other than that, households who experience

food insecurity also tend to eat whatever is available at or around their house as strategies to ensure the availability of food for their household (Sanusi et al., 2018). Meanwhile, for non-food-related coping strategies, the food-insecure household tends to delay the bill or rent payment in which will at least reserve some money for the household's food consumption (Tarasuk et al., 2020).

Another coping strategy that is commonly applied by food-insecure households is by seeking financial help from friends and family. This is a better decision compared to pawning or selling the assets because pawning or selling assets is not a sustainable method to reduce food insecurity status, even though it is an instant solution for that problem. Nevertheless, this coping strategy is often favoured compared to seeking help from food banks, welfare or agencies. This is because it requires them to reveal their personal information to strangers in order to ensure that they are the ones who fit to receive the financial or food assistance from that particular agency. This can be seen through a study by Tarasuk et al. (2020), where only 21.1% of food-insecure households in Canada were found to participate in food assistance programs compared to delaying in bill payment (47.4%). However, a different situation happens in the United States where 96% of very low food secure and 96% of low food secure households tend to participate in food assistance programs (i.e. SNAP) by the government.

As a consequence, food-insecure household tends to adopt more coping strategies frequently in order to alleviate the food insecurity problem within their household. More severe food-insecure households will tend to reduce their food quality and quantity as one of the strategies to face the problem. By reducing the food quality and quantity, it will ultimately influence their nutritional status and health-related quality of life (Susanti, Norhasmah, Fadilah, & Siti Farhana, 2019).



CHAPTER 3

METHODOLOGY

This chapter will explicate the design, subjects; including the location of the target population, sample size determination, inclusion and exclusion criteria, sampling method, instruments used and the data collection procedure for this study.

3.1 Study design

This study was a cross-sectional study that aimed to determine the food security status and its coping strategies among households who received The Lost Food Project (TLFP) products in selected low-cost public housing areas in Klang Valley.

3.2 Study Location

This study was carried out in several low-cost public housing areas in Klang Valley, Malaysia specifically in PPR Air Panas and PA Desa Rejang in Setiawangsa area; and Flat Negeri Sembilan, PPR Taman Wahyu, PPR Kg Batu Muda, PPR Seri Murni and Taman Wilayah in Batu area. People's Housing Project (PPR) under Ministry of Housing and Local Government (KPKT) is one of the government's initiative for the low income households, specifically B40 households, to provide them with a comfortable house to live in urban area. Low cost public house resident was classified based on the

socioeconomic status of the residents (specifically B40 group) with the household income per month (below RM3000).

3.3 Sample size determination

The sample size was calculated for correlation study (**Table 2**) as described below.

$$n = \frac{(z_{1-\frac{\alpha}{2}} + z_{1-\beta})^2}{\frac{r^2}{(1-r^2)}} + 5$$

Where,
1997)

(Cole,

n = the calculated sample size

$Z_{1-\alpha/2} = 1.96$ for 95% CI

$Z_{1-\beta} = \text{power} = 80\% = 0.84$

r = correlation

Table 2. Sample size calculation based on parameters according to correlation study.

Parameters		Calculated sample size	Adjustment of design effect (1.3)	Expected response rate (80%)	Eligibility (90%)
Correlation between nutrition knowledge and food security status (Pakravan-charvadeh & Mohammadi-nasrabadi, 2020)	$r = 0.340$	65	84.5	105.6	117.4 ≈118
	$r = -0.354$	54.7	71.1	88.9	98.8 ≈99
Correlation between household size with food security status (Yekinni et al., 2015)					

Based on the sample size calculation in the table above, the highest sample size obtained was 118 after considering all factors, including the response rate and errors. Therefore, the final total sample size for this study was 118 respondents aged 18 years old and above from low-income households (B40) from low-cost public housing areas who received TLFP products.

3.4 Respondents

The respondent's inclusion and exclusion criteria for this study are included in Table 1. The target population for this study was representative from each

household that received TLFP products aged 18 years old and above. The selected low-cost public housing area which participate in TLFP are PPR Air Panas, PA Desa Rejang, PPR Seri Murni, PPR Kg Batu Muda, PPR Taman Wahyu, Taman Wilayah and Flat Negeri Sembilan. The low-income households are defined as a household that is categorized under B40 (Below 40). B40 are those with a total household income of less than RM4850.00 (Department of Statistics, 2020). An adult from each household will act as a representative of the household, and he or she was selected if they are responsible for managing all the expenses and food production in the household.

Table 1. Inclusion and exclusion criteria of the respondents.

Inclusion criteria	Exclusion criteria
- Representatives from each household aged 18 years old and above - Low-income household (B40) - Staying or living in the low-cost public housing area - Received TLFP products	- Respondents with dementia

For exclusion criteria, respondents with dementia were excluded from this study. This was because, according to World Health Organization (WHO) (2020), dementia can be described as a syndrome in which there is a deterioration in memory, thinking, behaviour and the ability to perform everyday activities. Therefore, excluding respondents with dementia could minimize any external factor that will interrupt the main outcomes of the study,

especially in the section where they need to recall some situations that happened in the past one month or six months.

3.5 Sampling design

The lists of respondents who received the TLFP products were obtained from the administration office of each selected public housing area or People Housing Project (PPR). Convenience sampling was used in this study. This is because the selection of the housing area was made based on the TLFP's schedule, suitability of the housing area under the zone officer's advice, and availability of the products to be given to the respondents. Refer to **Figure 2** for the flow chart of the sampling.

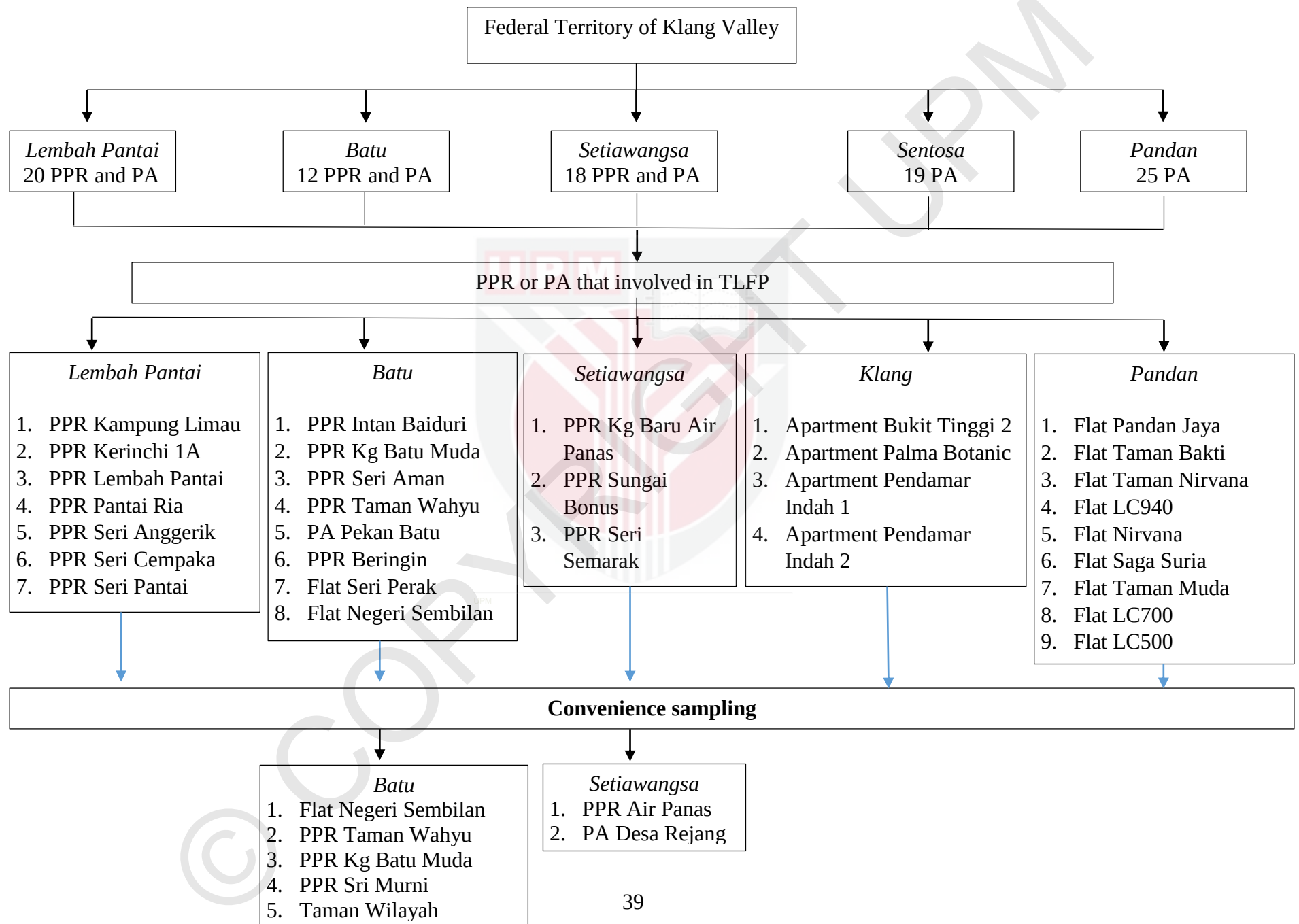


Figure 2. Flow chart of sampling

3.6 Instrument

A set of questionnaires was prepared, consists of five (5) sections; A: Demographic and socioeconomic backgrounds; B: Food assistance; C: Nutrition knowledge; D: Household food security; E: Coping strategies towards food security. All the questions were prepared in Malay. **Table 3** shows the summary of the instruments used in this study.

Table 3. Summary of the operational definition of instruments used in this study

Parameter	Instrument	Operational definition
A: Demographic and socioeconomic backgrounds	Questionnaire	Include demographic and socioeconomic backgrounds: - Respondent's personal information: age, marital status, education level and employment status - Family information: number of children, household size, household income, homeownership status and food and drinks expenditure.
B: Food Assistance	Questionnaire, Food list	Consists of four (4) questions regarding food assistance conducted by TLFP. This part will include the satisfaction level of TLFP recipients, the impact and significance of TLFP towards respondents, the type of food received within 12 months.
C: Nutrition knowledge	KAP Questionnaire by the Malaysian Technical Working Group on Research (TWR-G) (Norimah et al., 2008)	Comprises of 20 items that categorize into five (5) components: 1. Nutrient function 2. Nutrient insufficiency 3. Energy of food 4. Food selection 5. Supplies of nutrients <u>Scoring (Total score:20)</u> 0-11 ($\leq 50\%$) = Poor 11-14 (51-74%) = Moderate 15-20 ($\geq 75\%$) = Good

Parameter	Instrument	Operational definition
D: Household food security	U.S. Food Security Survey Module 2012: Six-item short form	Consists of six (6) items that assess the household food security status. <u>Scoring (Total score:6)</u> 0 – 1: High or marginal food secure 2 – 4: Low food secure 5 – 6: Very low food secure
E: Coping strategies towards food security	The Malaysian Coping Strategies Instrument (MCSI) (Norhasmah et al., 2010).	Consists of 12 items regarding food-related coping strategies used by the respondents to mitigate the food insecurity problem.

3.6.1 Demographic and socioeconomic background

This section was divided into four parts; Part A: Respondent's background, Part B: Family's background, and Part C: Household income. Information such as age, ethnicity, religion, marital status, education level, home ownership status, employment status for both respondent and partner. Meanwhile, the number of households either working or not, the number of children who are still attending school and any family's health background was needed in Part B. Part C was focused on the total monthly household income information and food and drinks expenditure.

3.6.2 Food assistance

This section consisted of four (4) questions regarding The Lost Food Project (TLFP). The respondents were asked about their overall satisfaction with the products received from TLFP. Besides, this section also assessed the impact of the product received towards the respondents in terms of the household's food supply and the significance level of the food assistance from TLFP towards

themselves and their households. The respondents were asked about the type of food items received from any donor or food assistance program and its frequency within 12 months.

3.6.3 Nutrition knowledge

A validated questionnaire developed by the Malaysian Technical Working Group on Research (TWR-G) is adapted for this section (Norimah et al., 2008). This section comprised 20 nutrition knowledge items that are categorized into five (5) domains which were food selection, nutrient function, the energy of food, nutrient insufficiency and nutrient availability. Each question was provided with five (5) choices of answers. One mark was given to each correct answer, and a zero mark was given to the wrong answer. The cumulative score for this section was 20, while the lowest score was zero. It was then converted into a percentage. The classification of nutrition knowledge score and the categories was referred to the TWR-G, MOH (Norimah et al., 2008) (**Table 4**). The Cronbach's alpha of this instrument used in this study was 0.82.

Table 4. The classification of nutrition knowledge score.

Knowledge categories	Scores	Percentages
Poor	0-10	$\leq 50\%$
Moderate	11-14	51-74%
Good	15-20	$\geq 75\%$

Source: Norimah et al. (2008)

3.6.4 Household food security

In this section, the U.S. Household Food Security Survey Module: Six-Item Short Form Survey by the National Center for Health Statistics was used to assess financially based food insecurity and hunger in surveys of households with or without children (Blumberg, MS, Hamilton, & Briefel, 1999). The Malay-translated version of the instrument was used after being translated using forward and backward translation methods. This instrument comprises six items. The questionnaire was answered by the representative of the household, preferably those who prepare the food for the household.

The first and second questions were related to the household condition. There were four (4) choices of answer which are “often true”, “sometimes true”, “never true”, and “refused to answer or don’t know”. Meanwhile, the third question related to whether their households had experienced cutting their meals because of not enough money. For this question, there were three (3) choices of answer, which were “Yes”, “No”, and “Don’t know”. If the respondents choose “Yes”, they needed to answer the next question about the frequency of the situation happening in the household. The choices of the answers consisted of “almost every month”, “some months but not every month”, “only 1 or 2 months”, and “don’t know”. The remaining two questions were asked to the respondents regarding their feelings about food accessibility in their households, and both questions were regarded with three choices of answers, whether “Yes”, “No”, or “Don’t know”.

For the scoring and analysing the data, the responses of “often” or “sometimes true” in the first and second questions and “yes” on the third, fifth

and six questions were coded as “Yes”. The fourth question was coded as “Yes” if the response is either “almost every month” or “some months but not every month”. From these, all the “Yes” codes were added to get the total score on food security status in the household. The higher total score indicated a very low food security level. The classification of food security level was referred to the classification proposed by USDA (2012) (**Table 5**). The Cronbach’s alpha of this instrument used in this study was 0.71.

Table 5. The classification of food security level

Score	Food security status
0 – 1	High food security
2 – 4	Low food security
5 – 6	Very low food security

Source: USDA (2012)

3.6.5 Coping strategies towards food security

In this section, the Malaysian Coping Strategies Instrument (MCSI) was adapted to evaluate the coping strategies used by the respondents in order to mitigate the food insecurity problem. MCSI was designed by a qualitative and quantitative approach relevant to the Malaysian culture and coping strategies (Norhasmah et al., 2010). This instrument has been validated by Norhasmah et al. (2011) among the population in Kelantan, Malaysia.

This study involved only 12 questions regarding food-related coping strategies. Each question was asked about the relative frequency per day, per week, per month and never. Each coping strategy had a different level of perceived severity; less severe, quite severe, severe and very severe (Norhasmah et al., 2010). This instrument was used to assess the frequency of coping strategies used within the household by percentage only, not to assess the food security status of a household. The Cronbach's alpha of this instrument used in this study was 0.68.

3.7 Ethical consideration

The study was approved by the Ethics Committee for Research Involving Human Subjects (JKEUPM-2020-455; see **Appendix 1**) and Dewan Bandaraya Kuala Lumpur (DBKL; see **Appendix 2**). Before completing the questionnaires, all respondents were informed about the purpose of the study, including the potential risks and benefits. Those who agreed to involve in this study answered the question on consent, and they were also freed to withdraw from the study at any time during their involvement.

3.8 Data collection

A pre-testing was conducted in March, 2021 among 16 respondents with similar characteristics from several low-cost public housing areas that received TLFP products. According to Sheatsley (1983) and Sudman (1983), at least 12 to 50 respondents are enough to conduct the pre-testing as it is a more cost-, energy- and time-efficient number of people. The pretesting was conducted to estimate the time taken for the respondents to answer the questions. The questionnaires were refined and modified accordingly. The pretesting was conducted via phone interviews and online platforms such as Google form.

The data was collected in three (3) months which was from April until June 2021. The list of selected PPR was obtained from the TLFP office. After that, seven (7) selected low-cost public housing in Klang Valley, which were PPR Air Panas, PA Desa Rejang, PPR Kg Batu Muda, PPR Taman Wahyu, PPR Seri Murni, Taman Wilayah and Flat Negeri Sembilan, were identified

and contacted through their management office to inform regarding this study together with a permission letter (*Appendix 6*).

There were four methods used to collect the data for this study. The first method involved the representatives from the respective low-cost public housings such as the People's Housing Project (PPR), low-cost flats, apartments and public housing. The residence's representative distributed the questionnaires to those who received the TLFP products. The representative assisted the respondents to complete the questionnaire before returning the questionnaires to the researcher. An information sheet about the study and an informed consent form (*Appendix 3*) were attached together with the questionnaire, and they filled in the form before answering the questionnaire. Only two (2) public housing areas which were PPR Air Panas and PA Desa Rejang, were involved in this method.

The second method involved in this study was a phone interview. The researcher obtained the phone numbers of TLFP recipients from the person-in-charge that distribute the food to the respondents. Each of the respondents was explained about the criteria, the risk and the privacy policy regarding the study. The respondents were asked whether they would like to participate in the study or not at the prior beginning of the interview session. This method was used during Movement Control Order (MCO 2.0) in April and total lockdown (MCO 3.0) in June. Two (2) public housing areas used this type of method, which were Flat Negeri Sembilan and PPR Taman Wahyu.

The third method involved was the face-to-face interview. This method was used during the Conditional Movement Control Order (CMCO) in April

2021, where the researchers were allowed to be in the field during the food distribution day. The respondents were asked to fill in the sociodemographic and socioeconomic section (Section A) first before the researcher assisted and interviewed the other sections (Section B, C, D and E). This is because most of the respondents encounter some hardships in reading the questions and writing their information themselves. The rest of the public housing areas involved in this method: PPR Kg Batu Muda, PPR Sri Murni and Taman Wilayah.

3.9 Statistical analysis

Data from the questionnaire were analyzed by using IBM SPSS Version 25.0. The categorical data were presented as number of respondent (n) and percentage (%), while continuous data were presented as mean (M) and standard deviation (SD). An independent sample *t*-test was used to compare the means of coping strategies score between food secure and food-insecure households. Meanwhile, chi-square was used to determine the association between socioeconomic background, nutrition knowledge and food security status of households who received TLFP products. The significant value was set at $p < 0.05$.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Socioeconomic background

After selecting the respondents according to the inclusion and exclusion criteria, the total number of respondents is 88 respondents (18 males and 70 females). The response rate of this study was 74.6%. There were 46 TLFP recipients who declined to participate in this study because they were uninterested, unreachable by the phone call, and some of them were not included in the inclusion criteria for this study. All data of the respondents were collected either by face-to-face interview (from PPR Kg Batu Muda, n=18; PPR Sri Murni, n=10; and Taman Wilayah n=5) or phone interview (from PPR Taman Wahyu, n=8; PPR Sri Murni, n=7; PPR Flat Negeri Sembilan, n=7; Kg Batu Muda, n=3; and; and Taman Wilayah n=3) or self-administered questionnaire (from PA Desa Rejang, n=26; and PPR Air Panas, n=1) (**Figure 3**). However, every question asked to the respondents were only based on the questionnaire prepared.

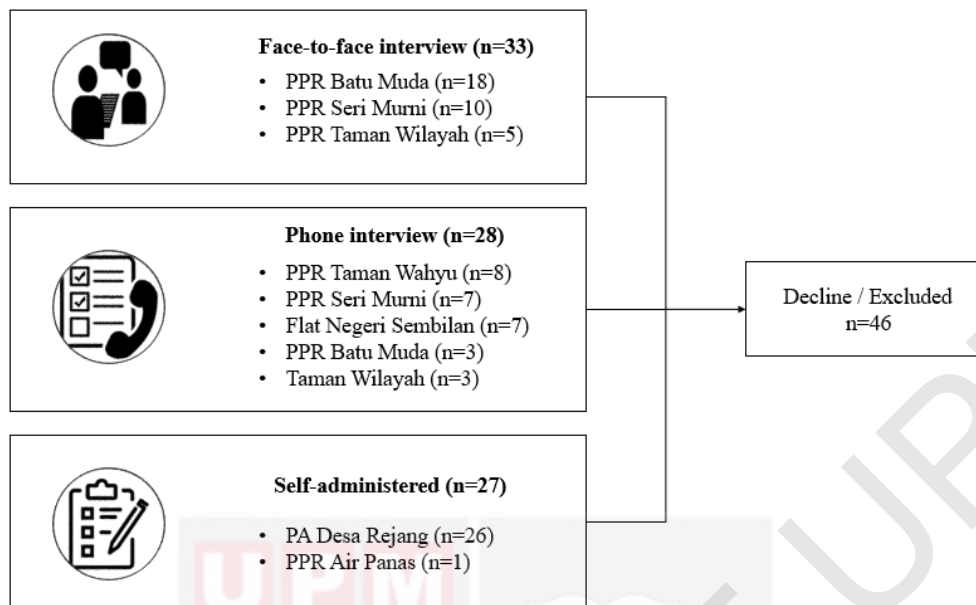


Figure 3. The number of respondents according to different types of data collection methods.

Detailed socioeconomic background of the respondents are presented in **Table 8**. The majority of the respondents were aged 41 years old and above (77.0%), and most of them were Malay (86.4%), followed by Indian (10.2%) and Chinese (3.4%). Bumiputera, including Malay (4734 households), are the most populated ethnic group in the urban area, followed by Chinese (1886 households) and Indians (595 households), and the number of Malay head of households has been increased from 3171 households in 2016 to 4734 households in 2019 (Department of Statistics Malaysia, 2020b). There were 88.6% of the respondents were Muslim, and 11.4% were non-Muslim. Besides that, the majority of the respondents were married or divorced (92.0%), while the rest was single (8.0%).

Sixty-four (64) respondents (74.4%) received their secondary education, 14 respondents (16.3%) did not attend a school or only attended primary education, and only eight respondents (9.3%) manage to pursue their study in tertiary education. The

proportion was almost the same as the partner's education level where the highest number of respondent's partners received secondary education (34.3%), followed by never attend or primary education (11.4%) and tertiary education (10.0%). A greater number of respondents rent their house (67.8%), and the rest (32.2%) owns them. This is also stated in *Kementerian Perumahan dan Kerajaan Tempatan (KPKT) Statistics 2016* (Ministry of Urban Wellbeing Housing and Local Government, 2016), where a higher number of PPR were provided for rental (72,479 units) compared to ownership (8,873 units).

Apart from that, there was a higher percentage of unemployment (58.6%) compared to employment (41.4%). Meanwhile, a higher percentage were found among partners who were employed (33.3%) compared to the unemployed (20.5%). The employed respondents were working in government sectors, private sectors or self-employed. The respondents were predominantly from a lower-income household, which was less than RM2000 per month (76.5%) and 45.3% of the total respondents spent around RM501 to RM1000 for their food and drinks monthly. According to the Department of Statistics Malaysia (2020b), Malaysian were reported to spend on average around RM794 (RM840 in Selangor) on food and non-alcoholic beverage and RM699 (RM925 in Selangor) for expenditure on restaurants and hotels (which refers to food and drinks away from home). A higher amount of expenditure was also found within the urban population compared to the rural population in 2019 (Department of Statistics Malaysia, 2020b). The main sources of income for the present study include wages, financial assistance from some organizations and other sources.

Moreover, most of the respondents have a number of households ranging from three to five persons (54.7%). This is supported by a national study where the household size in Malaysia was reported to be 3.9 persons per household (Department

of Statistics Malaysia, 2020c). Another study by Goh and Ahmad (2011) also revealed that each unit of high-rise, low-cost flat or PPR in Kuala Lumpur were designed to fit a family of 5 persons with an area per person is 130 square feet per person. There were 71 respondents (87.7%) who have less than two persons who are working and 37 respondents (43.5%) who have one to two persons in their households who are still studying. More than half of the respondents have households with chronic diseases (69.4%).

The majority of them have the same sociodemographic backgrounds, especially for marital status, household income and homeownership status because according to DBKL, the criteria to stay at PPR residence are the households must be married, have a total monthly income less than RM4000 and did not own any houses within 35km from the city center, only then they are able to apply to stay at PPR residences. This is because PPR is one of the Malaysian government initiatives to provide a basic need for safe and comfortable shelter for income earners under the B40 category.

Table 8. Socioeconomic background of respondents ($n = 88$).

Variable	<i>n</i>	Percentage (%)
Age ($n=87$)		
≤19 years old	3	3.4
20-40 years old	17	19.6
≥ 41 years old	67	77.0
Gender		
Male	18	20.5
Female	70	79.5
Ethnicity		
Malay	76	86.4
Chinese	3	3.4
Indian	9	10.2
Religion		

Variable	<i>n</i>	Percentage (%)
Islam	78	88.6
Buddha	2	2.3
Hindu	8	9.1
Marital status		
Married/ Divorced	81	92.0
Single	7	8.0
Education level (respondents) (n=86)		
Never attended school	3	3.5
Primary	11	12.8
Secondary	64	74.4
Tertiary	8	9.3
Education level (partners) (n=70)		
Never attended school	1	1.4
Primary	7	10.0
Secondary	24	34.3
Tertiary	7	10.0
Irrelevant*	31	44.3
Type of house (n=87)		
Rent	59	67.8
Owned	28	32.2
Occupation (respondents) (n=87)		
Employed	36	41.4
Unemployed	51	58.6
Occupation (partners)		
Employed	29	33.3
Unemployed	18	20.5
Irrelevant**	41	46.6
Number of households (n=86)		
≤ 2 persons	10	11.6
3-5 persons	47	54.7
6-8 persons	26	30.2
≥ 9 persons	3	3.5
≤ 5 persons	57	66.3
≥ 6 persons	29	33.0
Number of households who is working (n=81)		
≤ 2 persons	71	87.7

Variable	<i>n</i>	Percentage (%)
≥ 3 persons	10	12.3
Number of households who still studying (<i>n</i>=85)		
None	29	34.1
1-2 persons	37	43.5
≥ 3 persons	19	22.4
Presence of household with chronic diseases (<i>n</i>=85)		
Yes	59	69.4
No	26	30.6
Household income (<i>n</i>=85)		
≤ RM2000	65	76.5
>RM2000	20	23.5
Monthly food and drinks expenditure (<i>n</i>=86)		
≤RM500	33	38.4
RM501-RM1000	39	45.3
≥RM1001	14	16.3

* 'Education level (partners): Irrelevant' is referred to those who single/divorced.

** 'Occupation (partners): Irrelevant' is referred to those who single/divorced and unemployed.

4.2 Food Assistance

Table 9 shows the overall satisfaction of the households regarding the TLFP products received, the usefulness and significance of TLFP products towards their households. Among the respondents, the majority of them were satisfied with the food assistance received from TLFP (72.7%), and only a small number of respondents, which were (6.8%) was not satisfied with the food assistance products. The respondents were mostly thought that the food assistance was helpful (88.7%) and important (86.4%) towards their households.

Table 9. The overall satisfaction of households, usefulness and significance of TLFP products towards the households ($n = 88$)

Variables	<i>n</i>	Percentage (%)
Level of satisfaction		
Definitely not satisfied	4	4.5
Not satisfied	2	2.3
Not sure	18	20.5
Satisfied	38	43.2
Definitely satisfied	26	29.5
Level of usefulness		
Definitely helpful	43	48.9
Helpful	35	39.8
Not sure	10	11.4
Not helpful	0	0.0
Definitely not helpful	0	0.0
Level of significance		
Definitely significant	33	37.5
Significant	43	48.9
Not sure	12	13.6
Not significant	0	0.0
Definitely not significant	0	0.0

In terms of types of food received by the respondents (**Table 10**), the most food received were noodles (83.0%), rice (81.8%) and sugar (80.7%). Meanwhile, the least food or never received by the respondents were fruits (93.2%), ready-to-eat food (90.9%) and flavoured drinks (88.6%). According to TLFP Strategic Plan (2020), TLFP focuses on distributing food, mainly vegetables, to the low-cost public housing area such as the People's Housing Project (PPR). However, due to the COVID-19 pandemic, TLFP has been receiving many products mainly from food industries and other agencies such as dry goods and grocery items, and fewer products are coming from markets due to the low food production of fruits and vegetables.

Table 10. The types of food received by the households ($n = 88$).

Type of food	n (%)	
	Yes	No
Rice	81 (92.0)	7 (8.0)
Noodles	81 (92.0)	7 (8.0)
Flour	31 (35.2)	57 (64.8)
Bread	24 (27.3)	64 (72.7)
Biscuits	78 (88.6)	10 (11.4)
Egg	31 (35.2)	57 (64.8)
Sugar	79 (89.7)	9 (10.2)
Milk (powdered or liquid)	28 (31.8)	60 (68.2)
Condensed milk	26 (29.5)	62 (70.5)
Baby formula milk	26 (23.9)	67 (76.1)
Cooking oil	79 (89.8)	9 (10.2)
Vegetables	24 (27.3)	64 (72.7)
Fruits	6 (16.8)	82 (93.2)
Malted drinks	61 (69.3)	27 (30.7)
Flavoured drinks	10 (11.4)	78 (88.6)
Sauce or dipping	13 (14.8)	75 (85.2)
Ready-to-eat food	8 (9.1)	80 (90.9)

4.3 Nutrition knowledge

Table 11 outlined the percentage of nutrition knowledge responses according to items. A total of 20 questions were asked to assess the respondents' nutrition knowledge. Overall, the respondents scored significantly higher in questions that focused on the effects of excessive energy (92.0% and 90.0%) and sugar intake (90.9%), followed by knowledge on food preparation (87.5%) and the importance of exercise (75.0%). In contrast, most respondents answered wrongly on questions regarding the food pyramid, i.e. nutrient with the highest energy (77.2%), foods high in cholesterol (72.8%) and food to be consumed moderately (70.4%). Questions regarding Body Mass Index (BMI) (35.2%) and foods high in salt (22.7%) appeared to be the least known among the respondents. Therefore, future health interventions that are focusing on these topics are needed to improve the level of nutrition knowledge among low-cost public housing residents.

Table 11. The percentage of nutrition knowledge responses according to items ($n = 88$).

Nutrition knowledge responses	n (%)		
	Correct	Incorrect	Do not know
Diet yang seimbang perlu mengandungi zat (nutrient) berikut: <i>Balanced diet includes the following nutrients:</i> [Knowledge on balanced diet]	50 (56.8)	27 (30.7)	11 (12.5)
Anda boleh mendapatkan semua zat (nutrient) yang diperlukan dengan: <i>You can obtain all nutrients needed by:</i> [Knowledge on good food practices]	34 (38.6)	47 (53.4)	7 (8.0)
Mengikut pyramid makanan (food pyramid), kumpulan makanan manakah yang anda boleh makan secara sederhana? <i>Based on the food pyramid, which food group should we consume moderately?</i> [Knowledge on food to be consumed most]	23 (26.1)	62 (70.4)	3 (3.4)
Mengikut piramid makanan (food pyramid), kumpulan makanan manakah yang anda dinasihatkan untuk makan sedikit: <i>Based on the food pyramid, which food group should we consume the least?</i> [Knowledge on food to be eaten least]	50 (56.8)	36 (40.9)	2 (2.3)
Makanan yang tinggi kandungan garam ialah: <i>Food that high in salt is:</i> [Knowledge on foods high in salt]	48 (54.6)	20 (22.7)	20 (22.7)
Jenis zat (nutrient) yang memberi paling banyak tenaga (kalori) ialah: <i>Type of nutrients that provide the most energy (calories) is:</i> [Knowledge on nutrients with the highest energy (kilocalories)]	10 (11.4)	68 (77.2)	10 (11.4)
Jenis zat (nutrient) yang membina badan ialah: <i>Type of nutrients that are needed for bodybuilding is:</i> [Knowledge on bodybuilding nutrients]	44 (50.0)	33 (37.5)	11 (12.5)

Nutrition knowledge responses	n (%)		
	Correct	Incorrect	Do not know
Antara berikut, makanan manakah yang mengandungi paling banyak karbohidrat: <i>Which of the following is carbohydrate-rich food?</i> [Knowledge on carbohydrate-rich foods]	46 (52.3)	25 (28.4)	17 (19.3)
Di antara berikut, makanan manakah yang mengandungi paling banyak protein: <i>Which of the following is protein-rich food?</i> [Knowledge on protein rich foods]	57 (64.8)	17 (19.3)	14 (15.9)
Makanan yang kaya dengan vitamin, mineral dan serat/gentian/serabut (fibre) adalah: <i>Food that richs in vitamin, mineral and fibre are:</i> [Knowledge on foods rich in vitamin, mineral and fibre]	41 (46.6)	36 (40.9)	11 (12.5)
Di antara yang disenaraikan di bawah, makanan yang paling tinggi kandungan serat/gentian/serabut (fibre) adalah: <i>Which of the following is fibre-rich food?</i> [Knowledge on fibre-rich foods]	47 (53.4)	26 (29.6)	15 (17.0)
Di antara yang disenaraikan di bawah, makanan yang paling tinggi kandungan kolesterol ialah: <i>Which of the following is foods high in cholesterol?</i> [Knowledge on foods high in cholesterol]	20 (22.7)	64 (72.8)	4 (4.5)
Berikut adalah maklumat yang penting dalam sesuatu label makanan kecuali: (<i>n</i> = 84) <i>The following are the important information on food labels except:</i> [Knowledge on food preparation]	51 (58.0)	37 (42.0)	-
Senam aerobik (seperti jogging, berbasikal, tarian aerobik, jalan pantas dan berenang) adalah penting untuk: <i>Aerobic exercises (such as jogging, cycling, aerobic dancing, brisk walking and swimming) are important for:</i> [Knowledge on importance of exercise]	66 (75.0)	20 (22.7)	2 (2.3)
Indeks Jisim Tubuh (<i>Body Mass Index</i>) adalah satu petunjuk (<i>n</i> = 85) <i>Body Mass Index is referring to</i>	46 (52.3)	11 (12.5)	31 (35.2)

Nutrition knowledge responses	n (%)		
	Correct	Incorrect	Do not know
[Knowledge on ways to maintain desirable body weight]			
Cara memasak yang boleh meningkatkan kandungan lemak adalah secara: <i>Cooking methods that will increase the level of fats are by:</i> [Knowledge on food preparation]	77 (87.5)	9 (10.2)	2 (2.3)
Pengambilan tenaga (kalori) yang berlebihan akan mengakibatkan: <i>Excessive energy (calories) will:</i> [Knowledge on effect of excessive energy]	80 (90.9)	5 (5.7)	3 (3.4)
Kegemukan boleh meningkatkan risiko terhadap penyakit berikut: <i>Obesity can increase the risk of:</i> [Knowledge on effect of excessive energy]	81 (92.0)	3 (3.5)	4 (4.5)
Untuk mengelakkan kegemukan dan mengekalkan berat badan yang unggul (<i>desirable body weight</i>) kita perlu mengimbangkan pengambilan makanan dengan: <i>To prevent obesity and maintain desirable body weight, we need to balance the consumption of food and:</i> [Knowledge on ways to maintain desirable body weight]	63 (71.6)	14 (15.9)	11 (12.5)
Risiko apabila mengambil makanan yang berlebihan gula ialah: <i>The risk of having food excess in sugar is:</i> [Knowledge on effect of excessive sugar intake]	80 (90.9)	5 (5.7)	3 (3.4)

The mean of nutrition knowledge questions was 11.66 ± 3.91 . The minimum score was 2, and the maximum score was 18. The majority of the respondents were in moderate and good nutrition knowledge level, which were 37.5% and 27.3%, respectively. The rest were respondents with poor nutrition knowledge (35.2%). These results were presented in **Table 12**. Contradict results were found by Agbozo et al. (2018) where only 5.8% of the respondents have poor nutrition knowledge, 65.8%

have moderate nutrition knowledge, and 28.3% have good nutrition knowledge; meanwhile, Norimah et al. (2008) found that 73.0% of the respondents have poor nutrition knowledge, 18% have moderate and only 9% have good nutrition knowledge. The plausible reason for the inconsistent finding might be due to the age of the respondents involved with the respective study. The current study involved the majority of adults, aged 18 years and above, while the other studies (Agbozo et al., 2018; Norimah et al., 2008) involved older people aged more than 60 years old and above only which might have lower memory accuracy due to dementia where the incidence of dementia have shown to be higher among 85 to 89 years old (Wolters et al., 2020).

Table 12. The level of nutrition knowledge among households who received TLFP products ($n = 88$).

Nutrition knowledge level	<i>n</i>	Percentage (%)	Mean	SD	Min value	Max value
Poor	31	35.2	11.66	3.910	2	18
Moderate	33	37.5				
Good	24	27.3				

4.4 Food security status

With regards to the food security at the household level based on the Malay translated version of the Six-Item Short Form Food Security Survey, the majority (40.9 % and 18.2%, respectively) of the respondents experienced low and very low food security status (**Table 13**). Meanwhile, the rest (40.9%) of the respondents were in high food security status. The prevalence of food-insecure households (59.1%) in this study was slightly higher than a study conducted by Yong and Norhasmah (2016) where 50.6% of Chinese households at PPR Air Panas were food insecure; however,

it was still within the range according to the systematic review by Norhasmah et al. (2021): 47.2% to 100%. A higher percentage were found in a local study involving rural and urban households in Kelantan which were 68.1% (Norhasmah et al., 2011). Meanwhile, the study from Indonesia possessed lower percentage of food insecure households with only 27.4%, even though the study was conducted in three megacities such as Jakarta, Surabaya and Bandung (Kharisma & Abe, 2020). This percentage increment on the prevalence of food insecurity might be due to the respondents' eligible criteria itself, where they must participate or receive food assistance from TLFP. Those who received the food assistance should be the one that is qualified based on their monthly income, presence of disabled family members etc. Moreover, the number of food-insecure households is higher because the research was conducted during the COVID-19 pandemic, where most people are unemployed, and some of them are being dismissed from work. This was proved by Chong et al. (2021) and the International Labour Organization & Asian Development Bank (2020), where it showed that there is a slight increase (more than 40%) in the unemployment rate, especially from the second quarter of the pandemic in Malaysia. Therefore, it shows that most respondents might lose their source of income and encounter some financial challenges where they are prone to become food insecure during the data collection process.

Table 13. The prevalence of food insecurity among households who received TLFP products ($n = 88$).

Food security status*	<i>n</i>	Percentage (%)
High food security	36	40.9
Low food security	36	40.9
Very low food security	16	18.2

*Reference: USDA, 2012

4.5 Food-related coping strategies

This study presented that using less expensive food (6.9%), using less preferred food (3.4%), allocating money to buy staple and less preferred food (9.1%), reducing the number of meals eaten in a day (4.6%), favouring certain household members over the others (21.8%) and cutting down the portion size or a number of dishes for meals (14.9%) were the variables that were applied by respondents every day in the past one month (**Table 14**). This showed that the respondents opted to reduce the food quality by choosing a cheaper food option and food quantity by reducing the number of meals per day in order to mitigate the food insecurity problem within their households. The result was supported by a local study involving Orang Asli in Gombak, where 64.1% of their respondents adopted coping strategies such as using less expensive food (Nurfahilin & Norhasmah, 2015). Consistent findings were found in another local study by Sanusi et al. (2018). Another study in Ethiopia by Asesefa Kisi et al. (2018) demonstrated similar findings, where 72.4% of the respondents eat inexpensive foods, and 62.4% of respondents reduce the meal frequency. Hence, reducing the food quality and quantity is the main coping strategy adopted to the insufficiency of food within households. Poor food quantity and quality will subsequently influence their nutritional status and health-related quality of life (Susanti, Norhasmah, Fadilah, & Siti Farhana, 2019).

Besides that, on the basis of the Consumer Food Choice Model (Furst et al., 1996), the food price was the most significant factor in choosing the food for the household. The respondents preferred cheaper food with high energy contents without considering the nutrient contents of the food as long as the food can provide energy and make them fill full throughout the day. Choosing cheaper food will also help them

to manage the food budget and allocate the extra money for other essential needs such as house rent, bills, school expenditure and others (Ward et al., 2013).

The result also showed that 19 respondents were favouring certain household members over the others every day in the past one month (21.8%) as one of the coping strategies adopted in the households, which is the highest compared to other coping strategies. Emphasizing childcare might be one of the allocation bases and rules adopted by the parents, especially mothers who prepare the food. This is because based on Attachment Theory (Bowlby, 1969/1982) and due to the 'maternal altruism', the mothers are instinctively and willingly to sacrifice their own nutritional needs and satiety to protect their children's diet because they are already emotionally attached to their children (Jomaa et al., 2017).

Furthermore, it can be seen from the results that there was a higher percentage of respondents who never consume whatever food available around their house (80.5%). This is due to the fact that most respondents were staying at the apartment where there were no cultivatable lands for agricultural activities, and they do not practice urban agriculture home gardening at their housing area. Urban agriculture can be in the form of ground-based outdoor urban gardens and farms, hydroponic or aquaponics indoor production through skyfarming, rooftop gardens and farms, landscaping and nursery businesses and urban livestock (Little, 2019). Rezai et al. (2016), in a study in Putrajaya, revealed that urban agriculture had been known to reduce fresh food expenditure and thus, improving the food security status. Therefore, by practising urban agriculture, the respondents might improve their accessibility towards fresh vegetables and fruits and, at the same time, improving their nutritional status (Huho & Muriuki, 2021; Lal, 2020; Suryantini et al., 2021; Tumwebaze et al., 2018).

Table 14. Food-related coping strategies adopted by the households ($n=87$).

Variables	n (%)				
	Everyday	3-6 times per week	1-2 times per week	Less than 1 times per week	Never
Using less expensive food	6 (6.9)	23 (26.4)	22 (25.0)	23 (26.4)	13 (14.9)
Using less preferred food	3 (3.4)	1 (1.1)	10 (11.5)	15 (17.2)	58 (66.7)
Consuming whatever food is available around the house		6 (6.9)	6 (6.9)	5 (5.7)	70 (80.5)
Receiving food assistance from agencies/ neighbours/ siblings/ individuals/ employer		1 (1.1)	17 (19.3)	34 (38.6)	35 (39.8)
Borrowing money to buy food from employer/ friends/ neighbours/ siblings		1 (1.1)	4 (4.5)	11 (12.5)	71 (80.7)
Purchasing food on credit		3 (3.4)	2 (2.3)	8 (9.1)	74 (84.1)
Sending children to eat with mothers/ siblings/ at neighbours' houses		2 (2.3)	1 (1.1)	2 (2.3)	82 (94.3)
Allocating money to buy staple and less preferred food	8 (9.1)	21 (24.1)	17 (19.3)	23 (26.1)	18 (20.5)
Reducing the number of meals eaten in a day	4 (4.6)	5 (5.7)	17 (19.5)	15 (17.2)	46 (52.3)
Favouring certain household members over the others	19 (21.8)	4 (4.6)	9 (10.3)	7 (8.0)	48 (55.2)
Skipping meals the whole day ($n=86$)			3 (3.5)	4 (4.7)	79 (91.9)

Variables	n (%)				
	Everyday	3-6 times per week	1-2 times per week	Less than 1 times per week	Never
Cutting down the portion size or number of dishes for meals	13 (14.9)	7 (8.0)	11 (12.6)	9 (10.3)	47 (54.0)

The results in **Table 15** revealed the mean of MCSI score among respondents was 20.40 ± 19.82 and ranged from 0.0 to 86.0. According to Dessalegn (2018), the findings of coping strategies score (CSI) indicate that the higher value of CSI among households are more food insecure compared to those with a lower value of CSI. The higher value can be contributed by applying more items of coping strategies, applying more items with higher weightage and apply items more frequently.

Table 15. The mean of MCSI among households who received TLFP products ($n = 88$).

Variables	Mean	SD	Minimum value	Maximum value
MCSI score	20.40	19.82	0.0	86.0

4.6 Differences between the mean of MCSI score of food-secure and food-insecure households

Based on **Table 16**, an independent-samples *t*-test was performed to compare the mean of MCSI score between food secure and food-insecure households. The results showed that there was a significant difference between the mean MCSI score

between those who were food secure and food insecure ($t = -3.904$, $p < 0.001$). The mean of MCSI scores of those food insecure was significantly higher ($M = 26.95$, $SD = 22.13$) compared to those who were food secure ($M = 11.29$, $SD = 11.06$). As reported by Dessalegn (2018), the findings of the CSI score indicated that the households with a higher value are more food insecure than those with a lower value. On that account, the food insecure respondents were seen to apply more coping strategies frequently in the past one month compared to the food secure respondents. Most of them applied negative coping strategies where they restrict the food consumption in terms of quality and quantity in order to allocate extra money for the other basic necessities, while some of them applied positive coping strategies where they allocate more money to buy food for the household even though it is less preferred food (Wright & Gupta, 2015).

Table 16. Mean MCSI score between food secure and food insecure ($n = 86$).

Group	<i>n</i>	Mean	SD	<i>t</i>	<i>p</i>
Food secure	36	11.29	11.06	-3.904	<0.001
Food insecure	50	26.95	22.13		

4.7 Association between socioeconomic background, nutrition knowledge and food security status

A chi-square test was conducted to determine the association between socioeconomic background, nutrition knowledge and food security status as shown in **Table 17**. There was a significant association between home ownership status and food security status ($\chi^2 = 7.593$, $p = 0.006$). Half of the respondents who rent their house were food secure (50.0%) and there are about 41 respondents (80.4%) who rent

the house were food insecure compared to those who owned the house are less likely to be food insecure (19.6%). This result was supported by Elshahory et al. (2020) and McIntyre et al. (2016), where it showed that there was a significant association between home ownership status and food security status, and those who rent the house are more likely to be food insecure compared to those who owned the house. The plausible reason for this situation might be because when the household owns their house, it could reduce their monthly expenses on house rent, and they can at least allocate the extra money to purchase more food for their family.

Besides, homeownership also indicated that the household has wealth and assets, which protects the owners from transitory income shocks while protecting them from inflationary pressures that renters experienced (McIntyre et al., 2016). However, this was contradicted with a study in Pakistan by Akbar et al. (2020), where they claimed that homeownership did not appear to have a substantial role in alleviating severe food insecurity because the majority of the households either do not or spend a minimum portion of their income on housing only especially for the poor families that stayed in the urban area, tend to share a house with other families for the purpose of reducing the burden of house rent.

The household income ($X^2= 4.910$, $p=0.027$) and monthly food and drinks expenditure ($X^2=9.208$, $p=0.011$) also were shown significant associations with the food security status. Based on the findings, household income of RM2000 and below are more likely to be food insecure (86.0%) compared to those who obtained the household income more than RM2000 (14.0%). Meanwhile for monthly food and drinks expenditure, higher number of respondents were food insecure with monthly food and drinks expenditure of RM501 to RM 1000 (58.8%) compared to those who spend RM500 and below (29.4%) and RM1001 and above (11.8%). In food secure

group, half of the respondents spend RM500 and below (51.4%) followed by RM501 to RM1000 (25.7%) and RM1001 and above (22.9%). The findings on household income were supported by Nor Syaza and Norhasmah (2020), Noratikah, Norhasmah and Siti Farhana (2019), Kaiser et al. (2019) and Smith et al. (2017). Households with a better income can afford sufficient and better quality food for their household members compared to low-income households; they opt for low variety and experience insufficiency of food due to the lack of money to spend on nutritious food requirements (Asghar & Muhammad, 2013; Danquah, 2010 and Kirkpatrick, 2008). Other than that, several findings were also confirmed that high total expenditure, especially on food and drinks associated with the food security status of a household (Mackay et al., 2018 and Noratikah, Norhasmah & Siti Farhana, 2019). This is because lower-income households with the greater expenditure on food and drinks were prone to undergo food stress due to the higher food prices available in the market for healthy food (Mackay et al., 2018). Nevertheless, the cost of nutritious food has become a perceived barrier to its accessibility, resulting in food insecurity problems within that particular household.

The age of the respondents did not show any significant association with the food security status ($p>0.05$). This finding was contradicted to the previous studies by Pakravan-charvadeh & Mohammadi-nasrabadi (2020) and Mortazavi et al. (2017). There was also no significant association between marital status and food security status ($p>0.05$). This might be due to the majority of the respondents in this study were married and divorced (92.0%).

Both the education level of respondents and partners also did not appear to be significantly associated with food security status ($p>0.05$). However, previous studies revealed the association between education level and food security status, where lower

education levels of mothers and partners were associated with higher food insecurity status (Abdullah et al., 2019; Ali et al., 2019; Mortazavi et al., 2017). In addition, there was no association between the employment status of respondents and partners with food security status ($p>0.05$), which contrasts with the findings by Smith et al. (2017), where being unemployed is associated with lower food insecurity status. This is because employment will contribute to the higher household income and lead to better food security status for the households. According to Gender Stratification Theory (Blumberg, 1988), mothers who are employed has higher purchasing power and ability to make a decision on choosing high-quality food for their households and thus, improving the household's food security status.

With $p>0.05$, there were no significant associations between the number of households, number of working households and number of households who are still studying. Meanwhile, Olabiyi & McIntyre (2016) reported that greater household size was associated with increased exposure to the potential risk of being food insecure. Despite that, the food security status in a household depends on the number of working households because working households will improve the accessibility to food and reduce the food insecurity problem (Nyangasa et al., 2019), on the contrary, increased number of households who are still attending school will increase the food insecurity problem because higher expenditure is need for the purpose of education.

The possible reason behind the insignificant associations between age, gender, ethnicity, religion, marital status, education level, employment status and a number of working households with food security status may be due to the respondents have the same demographic backgrounds where the majority of them were women, more than 41 years old, Malay, Muslim, married, received secondary education, unemployed and have less than 2 working households (Refer to **Table 8**).

Based on **Table 17**, nutrition knowledge was shown to be not significantly associated with nutrition knowledge ($p>0.05$). This finding indicated that nutrition knowledge would not be affected by an individual's nutrition knowledge level. The finding was consistent with a study conducted by Agbozo et al. (2018), where the authors claimed that the food choices depend on the availability of food and are not necessarily based on nutrition knowledge. Nevertheless, it was contradicted to the other studies in which emphasizing the responsibility of caregivers in providing a variety of food to the children (Onyeneke et al., 2019), understanding of food and nutrition information (Khorramrouz et al., 2020) and utilization of food (Beavis et al., 2019 and Godrich et al., 2017). The contradictory results may be due to the study population where a study by Agbozo et al. (2018) involved older people aged ranging from 60 to 70 years old; meanwhile, other studies involving adults and children who have no mobility problem to access the food.

Table 17. Association between socioeconomic background and nutrition knowledge with food security status ($n=88$).

Variable	Food security status, n(%)		X^2	p
	Secure ($n=36$)	Insecure ($n=52$)		
Age¹				
≤ 40 years old	4(11.1)	16(31.4)	3.816	0.051
≥ 41 years old	32(88.9)	35(68.6)		
Gender¹				
Male	8(22.2)	10(19.2)	0.005	0.942
Female	28(77.8)	42(80.8)		
Ethnicity²				
Malay	31(86.1)	45(86.5)	5.005	0.066
Chinese	3(8.3)	0(0.0)		
Indian	2(5.6)	7(13.5)		

Variable	Food security status, n(%)		X^2	p
	Secure (n=36)	Insecure (n=52)		
Religion²				
Islam	32(88.9)	46(88.5)	3.193	0.151
Buddha	2(5.6)	0(0.0)		
Hindu	2(5.6)	6(11.5)		
Marital status²				
Married/Divorced	34(94.4)	47(90.4)	0.696	
Single	2(5.6)	5(9.6)		
Education level (respondent)²				
Never attended school or primary	7(19.4)	7(14.0)	2.316	0.328
Secondary	24(66.7)	40(80.0)		
Tertiary	5(13.9)	3(6.0)		
Education level (partner)²				
Never attended school or primary	3(13.0)	5(31.3)	2.151	0.344
Secondary	16(69.6)	8(50.0)		
Tertiary	4(17.4)	3(18.8)		
Homeownership status¹				
Rent	18(50.0)	41(80.4)	7.593	0.006*
Owned	18(50.0)	10(19.6)		
Occupation (respondent)¹				
Employed	15(41.7)	24(47.1)	0.078	0.780
Unemployed	21(58.3)	27(52.9)		
Occupation (partner)¹				
Employed	13(56.5)	16(66.7)	0.512	0.678
Unemployed	11(43.5)	8(33.3)		
Number of household¹				
≤ 2 person	3(8.6)	7(13.7)	1.665	0.435
3-5 person	22(62.9)	25(49.0)		
≥ 6 person	10(28.6)	19(37.3)		
Number of households who working²				
≤ 2 person	25(80.6)	46(92.0)	0.170	
≥ 3 person	6(19.4)	4(8.0)		

Variable	Food security status, n(%)		X ²	p
	Secure (n=36)	Insecure (n=52)		
Number of households who still studying¹				
None	12(34.3)	17(34.0)	1.071	0.586
1-2 person	17(48.6)	20(40.0)		
≥ 3 person	6(17.1)	13(26.0)		
Presence of chronic diseases¹				
Yes	25(71.4)	34(68.0)	0.010	0.922
No	10(28.6)	16(32.0)		
Household income¹				
≤ RM2000	22(62.9)	43(86.0)	4.910	0.027*
>RM2000	13(37.1)	7(14.0)		
Monthly food and drinks expenditure¹				
≤RM500	18(51.4)	15(29.4)	9.208	0.011*
RM501-RM1000	9(25.7)	30(58.8)		
≥RM1001 and above	8(22.9)	6(11.8)		
Nutrition knowledge¹				
Poor	9(25.0)	22(42.3)	2.086	0.149
Moderate or Good	27(75.0)	30(57.7)		

*significant value sets at $p<0.05$

¹ Chi-square test was used

² Fisher exact test was used

4.7 Differences between the number of food items received within 12 months with food security status

An independent-samples *t*-test was performed to compare the mean number of food items received within 12 months in food-secure households to the mean number of food items received in food-insecure households (**Table 18**). No significant difference was found ($t = 1.324$, $p = 0.582$). The mean number of food items in food-secure households (26.86 ± 3.603) was not significantly different from the mean

number of food items in food-insecure households (25.85 ± 3.489). This might be because of the rotation system applied at the residence area where everyone living in that particular area will have equal chances to receive food assistance from various food donors, including from TLFP.

Table 18. Results of independent sample *t*-test on the mean number of food items received within 12 months between food secure and food-insecure households. (*n* = 88)

Group	<i>n</i>	Mean	SD	<i>t</i>	<i>p</i>
Food secure	36	26.86	3.603	1.324	0.189
Food insecure	52	25.85	3.489		

CHAPTER 5

CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

5.1 Conclusion

This study explores the food security status and its coping strategies among households who received The Lost Food Project (TLFP) products in selected low-cost public housing areas in Klang Valley. Overall, food security status is still remaining concern among residents in the low-cost public housing areas, and it is, somehow, influenced by household income and expenditure.

This study concludes that more than half of the respondents were food insecure, and it shows that homeownership, household income and monthly food and drinks expenditure are the associated factors that contribute to the food insecurity problem among TLFP recipients. Besides, food-insecure households tend to adopt more coping strategies to mitigate the food insecurity problem compared to those food-secure households. The majority of the respondents were satisfied with the food assistance from TLFP, and they think that the food assistance is very helpful and significant to their households.

Due to the COVID-19 pandemic, there have been increasing rate of unemployment, possibly decreasing household income and increasing proportion of household food expenditure, in which lead to food insecurity problem within that particular household. Understanding the associations of socioeconomic backgrounds, nutrition knowledge, food assistance with food security status can contribute to government agencies and non-government agencies to manage and control the food insecurity problem in the Malaysian community. Fundamentally, improving the food

security status of households will certainly improve their nutritional status, which then leads to the reduction of the disease burden of a country.

5.2 Limitations of the study

There are several limitations that were discovered throughout the data collection for this study. Firstly, this study was not representative of the whole Malaysian population due to the small sample size, and it also used a convenience method to obtain the respondents for this study. Various methods were used in which might result in unstandardized data reliability. This is because every method has different strengths and limitations. Other than that, coping strategies can be biased as the statements made by the respondents might not portray the actual condition of their households. They can overly claim their condition to obtain more financial assistance in future or minimally claim their condition to keep their family's dignity.

Another limitation of this study is TLFP or the residence's representative do not own or keep the record on the list of any food assistance's recipients. Due to this problem, we had to trace the TLFP recipient during the food distribution program to ensure only those who received TLFP products were involved in this study. However, the questionnaire asked about the type of food items received within 12 months, where it is impossible for the respondents to differentiate the products received by them according to the food donors. Since the respondents cannot differentiate it, the data obtained on the type of food items received by the respondents can only be displayed in general to all food assistance programs from any agencies and not specifically to TLFP. Therefore, this study cannot predict the association and the effect of TLFP products on the food security status of the households.

5.3 Recommendations

It is recommended to expand the research on the effectiveness of TLFP in improving the food security status of the recipient's household. By comparing between control and intervention groups, we can evaluate the effectiveness of receiving food assistance, such as from TLFP, in improving a household's food security status. This can help TLFP in enhancing their future strategic plan; thus, more people can get the benefits when enrolling in their food assistance program in future.

In addition, future research is suggested on the impact of receiving food assistance, especially from TLFP, on the nutritional status of the recipients. This is because by knowing the impact on their nutritional status, they can know either the food provided is adequate and enough to achieve the recommended intake of an individual or not. By having the information on the nutritional status, TLFP can plan to provide food according to their needs, especially for those who have certain illnesses that require a personalized diet, such as chronic kidney disease (CKD) patients or diabetes patients. This will enhance the utilization of the food and eventually help in improving one's quality of life.

Another qualitative research on the coping strategies should be held to figure out the underlying methods adopted by individuals or households to mitigate the food insecurity problem, especially during the COVID-19 pandemic. This will certainly provide insights to the government or non-government agencies in assisting the vulnerable groups and reducing the effect of the food insecurity problem.

Lastly, health educators, in collaboration with the Ministry of Health (MOH), should conduct more education programs focusing on upgrading the nutrition knowledge of Malaysians. This is because most previous studies stated that better

nutrition knowledge would help individuals to fully utilize the function of food at the maximum capacity.



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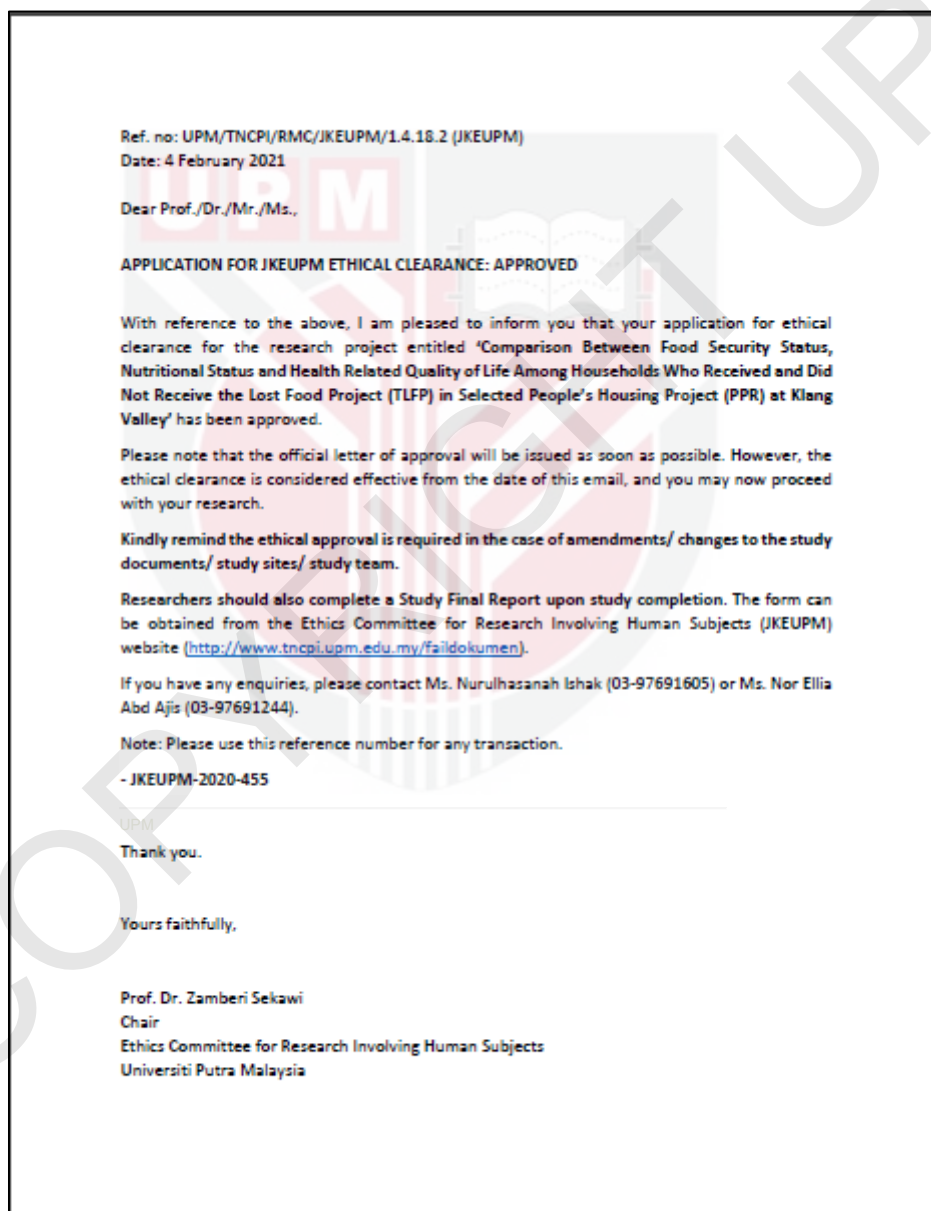
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APPENDICES

Appendix 1

Ethical approval from Ethics Committee for Research Involving Human Subjects (JKEUPM)



Approval from Dewan Bandaraya Kuala Lumpur (DBKL)

 **دewan Bandaraya Kuala Lumpur**
DEWAN BANDARAYA KUALA LUMPUR
 JABATAN PEMBANGUNAN KOMUNITI DAN KESEJAHTERAAN BANDAR
 TINGKAT 4 - 9, 12 & 16
 MENARA DBKL 3, BANDAR WAKAS
 JALAN RAJA ABDULLAH
 50300 KUALA LUMPUR

  PEMANTUAN BERSEKUTUHAN
03-26170068

Rujukan Tuan :
 Rujukan Kami : DBKL/JPKB/SPZ/29-3 Jld 10 (5)
 Tarikh : 11 Mac Januari 2021
 27 Rejab 1442H

UNIVERSITI PUTRA MALAYSIA
 Fakulti Perubatan Dan Sains Kesihatan
 43400 UPM Serdang
 Selangor Darul Ehsan
 (U/P: PROF. MADYA DR NORHASMAH BINTI SULAIMAN)

Puan,

PERMOHONAN KEBENARAN PROSES PENGUMPULAN DATA DI PROGRAM PERUMAHAN RAKYAT (PPR) BAGI KAJIAN THE LOST FOOD PROJECT (TLFP), DEWAN BANDARAYA KUALA LUMPUR (DBKL)

Dengan segala hormatnya saya merujuk kepada emel puan bertarikh 10 Januari 2021 berhubung perkara di atas.

Dengan hormatnya adalah saya merujuk kepada perkara di atas.

- Adalah dimaklumkan bahawa Jabatan Pembangunan Komuniti dan Kesejahteraan Bandar, telah menerima surat dari pihak puan bertarikh **8 Januari 2020** berkenaan permohonan menjalankan pengumpulan data di 18 kawasan PPR DBKL bagi kajian The Lost Food Project (TLFP) di Lembah Klang.
- Setelah meneliti permohonan ini, sukacita dimaklumkan bahawa Jabatan Pembangunan Komuniti dan Kesejahteraan Bandar tiada halangan dan meluluskan permohonan puan. Sehubungan itu, Jabatan memohon pihak puan untuk **berurusan secara terus bersama pengurus perumahan** berkenaan soal selidik yang akan dijalankan. Di samping itu, hasil daripada kajian perlulah dibuat salinan soft copy dan hantar kepada DBKL bagi rujukan jabatan.
- Pihak Puan dikehendaki **mematuhi "SOP"** yang telah di tentukan oleh Majlis Keselamatan Negara (MKN) bagi mengelak penularan wabak Covid-19 sepanjang sesi pelaksanaan program dilaksanakan.

 ...2/-

TELEFON: 03-26170068 FAKS: 03-26937322 TELEKX: DBKL MA 30683 KAWAT DATA BANDAR

Mukassarat 2

Rujukan Kami : DBKL/SPKES/SP/20-3, Jld 11 (P4)

PERMOHONAN KEBENARAN PROSES PENGIMPILAN DATA DI PROGRAM PERUMAHAN RAKYAT (PPR) BAGI KAJIAN THE
LOST FOOD PROJECT (LTFP), DEWAN BANDARAYA KUALA LUMPUR (DBKL)

5. Di samping itu, pihak puan juga dikehendaki menjalankan kerja-kerja seperti diatas tanpa mencetuskan sebarang permasalahan di kalangan penduduk dan menjaga imej datuk bandar sepanjang sesi ini berlangsung.

6. Sehubungan dengan itu, sebarang pertanyaan mengenai perkara di atas boleh menghubungi Pengurus Perumahan dan pelawat perumahan untuk tindakan puan selanjutnya.

BIL.	NAMA PELAWAT	NOMBOR TELEFON	KAWASAN PERUMAHAN	ALAMAT PEJABAT ZON
1.	Encik Mohd Shawal Bin Yatim (Pengurus Zon 1)	012-293 7703/ 03-9200 2261	Pejabat Zon 1	Blok 56, Perumahan Awam Seri Sabah 3A, Jalan Ikan Ayu, 56100 Cheras Kuala Lumpur
2.	Encik Shahrin Bin Sulaiman@Pamuchi (Pengurus Zon 2)	016-331 4257/ 03-9222 2510	Pejabat Zon 2	Blok 2 PPR Seri Alam Jalan 11/8 Off Jalan Istana Sungai Besi 57100 Kuala Lumpur
3.	Puan Saadiah Bt Hashim (Pengurus Zon 3)	018-944 7611/ 03-4042 0340	Pejabat Zon 3	Blok 39,Rumah Pangsa Seri Perak ,Bandar Baru Sentul Fasa 1C
4.	Encik Suwatri Bin Deraman (Pengurus Zon 4)	012-603 3715/ 03-4143 5092	Pejabat Zon 4	Persiaran Rejang Setapak Jaya ,53300 Setapak Kuala Lumpur

Sekian, terima kasih.

UPM

...3/-

Information Sheet and Informed Consent



**JAWATANKUASA ETIKA UNIVERSITI UNTUK
PENYELIDIKAN MELIBATKAN MANUSIA (JKEUPM)
UNIVERSITI PUTRA MALAYSIA, 43400 UPM SERDANG,
SELANGOR, MALAYSIA**

BORANG 2.4: PENERANGAN DAN PERSETUJUAN RESPONDEN

Sila baca maklumat berikut dengan teliti. Sekiranya anda mempunyai sebarang pertanyaan, sila kemukakan kepada penyelidik.

1. TAJUK KAJIAN

Perbandingan status jaminan kedapatan makanan dalam kalangan penduduk Program Perumahan Rakyat (PPR) yang menerima atau tidak menerima bantuan makanan daripada 'The Lost Food Project (TLFP)' di Lembah Klang, Malaysia.

2. PENGENALAN

'The Lost Food Project' (TLFP) adalah organisasi bukan kerajaan yang ditubuhkan pada tahun 2016 untuk mengatasi masalah sisa makanan, kelestarian alam sekitar dan kelaparan. TLFP menyelamatkan makanan berkualiti dan berkhasiat yang akan berakhir di tempat pembuangan sampah dan mengagihkan semula makanan ini dan barangan keperluan lain kepada mereka yang memerlukan antaranya Projek Perumahan Rakyat (PPR) yang terpilih. Melalui pengagihan semula makanan ini, TLFP bertujuan untuk membantu keluarga yang berpendapatan rendah untuk mengalihkan sumber kewangan mereka kepada keperluan lain seperti penjagaan kesihatan dan pendidikan.

Dalam kajian ini, penyelidik ingin mengkaji mengenai keberkesanan program TLFP terhadap status tiada jaminan kedapatan makanan, status pemakanan dan kualiti hidup berkaitan kesihatan. Selain itu, kajian ini juga ingin mengkaji perbezaan penerima dan bukan penerima bantuan makanan daripada TLFP dari segi latar belakang sosioekonomi, tahap pengetahuan pemakanan dan status tiada jaminan kedapatan makanan. Hasil kajian ini dapat membantu pihak berkepentingan seperti pihak yang melaksanakan program TLFP dalam menambah baik strategi pelaksanaan program disamping membantu menyelesaikan masalah kelaparan dan mengurangkan masalah pengurusan lebihan makanan dan pembuangan sisa makanan di Malaysia.

3. APAKAH YANG PERLU ANDA LAKUKAN?

Kajian ini akan melibatkan tiga perkara yang perlu dilakukan oleh responden iaitu seorang wanita dewasa dalam satu isi rumah:

1. Responden perlu menjawab soalan-soalan di dalam borang soal-selidik yang diberikan. Borang soal selidik dibahagikan kepada 5 bahagian yang terdiri daripada latar belakang ekonomi dan demografi, sejarah penyakit, bantuan kewangan dan makanan, tahap pengetahuan pemakanan, status jaminan dapatan makanan, dan strategi mengatasi ketidakdapatan makanan.

2. Jangka masa untuk responden melengkapkan satu set borang soal-selidik adalah 20 minit.

Untuk beberapa bahagian di dalam borang soal-selidik iaitu bahagian status jaminan ketidakdapatan makanan, terdapat beberapa soalan yang mungkin boleh menyebabkan responden kurang selesa untuk menjawab. Oleh itu, responden diberi pilihan untuk menjawab borang soal-selidik secara temuduga atau menjawab secara sendiri dengan dipantau oleh penyelidik.

Sebelum menyertai kajian ini, responden perlu membaca segala maklumat pada Borang Penerangan dan Persetujuan Responden dan perlu menandatangani borang persetujuan untuk menyertai kajian ini. Penyertaan di dalam kajian ini adalah secara sukarela tanpa paksaan daripada mana-mana pihak dan responden boleh menarik diri sekiranya mereka mahu keluar atau berhenti menyertai kajian ini.

4. SIAPA YANG TIDAK BOLEH MENYERTAI KAJIAN INI?

Responden yang mempunyai masalah dementia.

5. APAKAH FAEDAH MENYERTAI KAJIAN INI?

a) KEPADA ANDA SEBAGAI RESPONDEN?

Penyelidikan yang dilakukan membolehkan responden mengetahui status kesihatan diri melibatkan status berat badan dan status pemakanan serta kualiti hidup berkaitan kesihatan supaya mereka dapat mengekalkan kesihatan diri di tahap yang optimum atau melakukan perubahan yang sepatutnya.

b) KEPADA PENYELIDIK?

Dengan memperolehi maklumat yang lengkap, penyelidik dapat mengkaji keberkesanan program TLFP terhadap status tiada jaminan kedapatan makanan. Selain itu, penyelidik juga dapat mengkaji perbezaan penerima dan bukan penerima bantuan makanan daripada TLFP dari segi latar belakang sosioekonomi, tahap pengetahuan pemakanan, dan status tiada jaminan kedapatan makanan dalam populasi kajian ini. Ini dapat membantu penyelidik dan agensi yang menguruskan TLFP dapat merancang aktiviti berkaitan pengurusan lebihan makanan dan pembuangan sisa makanan di Malaysia.

6. ADAKAH IA BERISIKO?

Tiada sebarang risiko kepada wanita yang menyertai kajian ini.

7. ADAKAH MAKLUMAT DAN IDENTITI SAYA KEKAL RAHSIA?

Segala maklumat yang diberikan adalah sulit dan keputusan yang diperolehi akan dimaklumkan secara keseluruhan.

8. SIAPA YANG SAYA PERLU HUBUNGI SEKIRANYA SAYA MEMPUNYAI SOALAN TAMBAHAN SEMASA MENGIKUTI PENYELIDIKAN INI?

Penyelidik,
Nur Arina Bakeri
Pemakanan Komuniti
Jabatan Pemakanan
Fakulti Perubatan dan Sains Kesihatan
Universiti Putra Malaysia
43400 UPM Serdang
Selangor Darul Ehsan
Tel: 017-7535602
Emel: nurarinabakeri@gmail.com

Penasihat,
Prof Madya Dr. Norhasmah Sulaiman
Pemakanan Komuniti
Jabatan Pemakanan
Fakulti Perubatan dan Sains Kesihatan
Universiti Putra Malaysia
43400 UPM Serdang
Selangor Darul Ehsan
Tel: +603-97692461
Emel: norhasmah@upm.edu.my

Sila tandatangan di sini sekiranya anda telah membaca dan memahami kandungan halaman ini _____

9. PERSETUJUAN

Saya..... No Kad Pengenalan.
beralamat.....
.....dengan ini bersetuju untuk mengambil bahagian secara
sukarela dalam penyelidikan yang tersebut di atas *(kajian klinikal/percubaan ubat-
ubatan/rakaman video/kumpulan sasaran/temuduga/ soal selidik).

Saya telah diberi penjelasan secara menyeluruh mengenai penyelidikan ini dari segi
metodologi, risiko dan komplikasi (seperti tertulis pada Helaian Penerangan Responden).
Saya memahami bahawa saya berhak menarik diri dari penyelidikan ini pada bila-bila masa
tanpa memberi sebarang alasan. Saya juga memahami bahawa sebarang maklumat yang
berkaitan identiti saya akan dirahsiakan.

Saya* berminat / tidak berminat untuk mengetahui keputusan kajian yang melibatkan
saya.

Saya setuju/tidak bersetuju untuk imei/gambar/rakaman video/ rakaman suara digunakan
dalam apa jua bentuk penerbitan atau pembentangan. (sekiranya berkaitan).

*potong yang tidak berkenaan

Tandatangan Tandatangan
(Responden) (Saksi)

Tarikh :..... Nama :.....

No. K/P:

Saya mengesahkan bahawa saya telah menerangkan kepada responden ini sifat dan
tujuan penyelidikan yang tersebut di atas.

Tarikh Tandatangan
(Penyelidik)

Example of questionnaire set

NO. ID

JABATAN PEMAKANAN

FAKULTI PERUBATAN DAN SAINS KESIHATAN

BORANG SOAL-SELIDIK

TAJUK KAJIAN

**FAKTOR-FAKTOR YANG BERKAITAN DENGAN STATUS SEKURITI
MAKANAN DAN STRATEGI MENGATASINYA DALAM KALANGAN
PENERIMA PRODUK 'THE LOST FOOD PROJECT' (TLFP) DI PERUMAHAN
AWAM KOS RENDAH DI SEKITAR LEMBAH KLANG**

PENYELIDIK

PROF. DR. NORHASMAL BINTI SULAIMAN

PROF. Madya DR. GAN WAN YING

PEMBANTU PROJEK

NUR SYAQIERA BINTI MANSOR

NUR ARINA BINTI BAKERI

TAN SEOK KWAN

- - -
Zon Kawasan Blok No. rumah

TARIKH PENGUMPULAN DATA : ____ / ____ / ____

Borang soal-selidik ini mengandungi 5 bahagian secara keseluruhannya.

BAHAGIAN A: MAKLUMAT DEMOGRAFI DAN SOSIOEKONOMI

A. LATAR BELAKANG RESPONDEN

1. No. Telefon: _____
2. No. Kad pengenalan: _____ - ____ - _____
3. Umur : ☐ Bawah 19 tahun ☐ 20-30 tahun ☐ 31-40 tahun
☐ 41-50 tahun ☐ 51-60 tahun ☐ 61 tahun

dan keatas

4. Kaum : ☐ Melayu ☐ Cina ☐ India ☐ Lain-lain; _____

5. Jantina : ☐ Lelaki ☐ Perempuan

6. Tinggi : _____ cm

7. Berat : _____ kg

8. Alamat Rumah (lengkap) :

9. Kawasan perumahan:

☐ PPR Seri Semarak	☐ PPR Sungai Bonus	☐ PPR Kerinchi	☐ Apartment Bukit Tinggi 2
☐ Apartment Palma Botanic	☐ Apartment Pendamar Indah 1	☐ Apartment Pendamar Indah 2	☐ PPR Desa Rejang
☐ Flat Negeri Sembilan	☐ PPR Air Panas	☐ Perumahan Awam Setapak Jaya	☐ Flat Pandan Jaya
☐ Flat Taman Bakti	☐ Flat Taman Nirvana	☐ Flat LC940	☐ Flat Sri Suria
☐ Flat Taman Muda	☐ Flat LC700	☐ Flat LC500	☐ PPR Kg Limau

☐ PPR Pantai Ria	☐ PPR Seri Cempaka	☐ PPR Seri Pantai	☐ PPR Seri Anggerik
☐ PPR Intan Baiduri	☐ PPR Taman Wahyu	☐ PPR Batu Muda	☐ PPR Pekan Batu
☐ PPR Beringin	☐ PPR Sri Aman	☐ PPR Sri Murni	
☐ Lain-lain; _____			

10. Agama : ☐ Islam ☐ Buddha ☐ Hindu ☐ Kristian
☐ Lain-lain; _____

11. Taraf perkahwinan: ☐ Berkahwin ☐ Bercerai/ Meninggal ☐
Belum berkahwin

12. Tahap pendidikan:

Responden (Isteri)	Suami <i>(Tidak perlu diisi sekiranya suami sudah meninggal atau bercerai)</i>
☐ Tidak pernah bersekolah	☐ Tidak pernah bersekolah
☐ Sekolah Rendah	☐ Sekolah Rendah
☐ Menengah Rendah (Tingkatan 3)	☐ Menengah Rendah (Tingkatan 3)
☐ Menengah Atas (Tingkatan 5)	☐ Menengah Atas (Tingkatan 5)
☐ Matrik atau Tingkatan 6 (STPM)	☐ Matrik atau Tingkatan 6 (STPM)
☐ Kolej atau Universiti	☐ Kolej atau Universiti
	☐ Tidak berkenaan

13. Jenis rumah: ☐ Sewa beli ☐ Rumah sendiri ☐ Lain-lain; _____

14. Jenis pekerjaan utama:

- i. Responden (isteri)
Kerajaan : ☐ Bekerja sendiri ☐ Suri rumah ☐
☐ Swasta ☐ Pelajar ☐
Bersara

- ii. Suami : ☐ Bekerja sendiri ☐ Suri rumah ☐
Kerajaan ☐ Swasta ☐ Pelajar ☐
Bersara ☐ Tidak berkenaan

B. MAKLUMAT KELUARGA

1. Bilangan ahli isi rumah : ☐ 2 orang dan kebawah ☐ 3-5 orang
☐ 6-8 orang ☐ 9 orang dan keatas
2. Bilangan isi rumah yang bekerja: ☐ 2 orang dan kebawah ☐ 3-5 orang
☐ 6-8 orang ☐ 9 orang dan keatas
3. Bilangan anak yang masih bersekolah:
☐ Tiada ☐ 1-2 orang ☐ 3-4 orang ☐ 5 orang dan keatas
4. Bilangan ahli keluarga yang menghidap penyakit kronik/kurang upaya (tinggal bersama):
☐ Tiada ☐ 1-2 orang ☐ 3-4 orang ☐ 5 orang dan keatas
5. Tandakan jenis penyakit kronik/ kurang upaya yang dihidapi

☐ Kencing manis ☐ Darah tinggi ☐ Sakit jantung ☐ Sakit buah pinggang

☐ Strok ☐ Asma ☐ Kanser ☐ Obesiti

☐ Orang kurang upaya seperti kurang upaya pendengaran (DE), penglihatan (BL),

pertuturan (SD), fizikal (PH) dan sebagainya

☐ Lain-lain penyakit, nyatakan; _____

C. MAKLUMAT PENDAPATAN BULANAN

1. Jumlah pendapatan isi rumah (RM) dalam sebulan :

☐ RM 1000 dan kebawah

☐ RM 1001- RM 2000

☐ RM 2001- RM 3000

☐ RM 3001-RM 4000

☐ RM 4001- RM 4850

☐ RM 4851 dan keatas

2. Perbelanjaan makanan dan minuman di DALAM dan LUAR rumah setiap bulan (RM)

☐ RM 500 dan kebawah

☐ RM 501- RM 1000

☐ RM 1001- RM 1500

☐ RM 1501 dan keatas

3. Secara keseluruhan, apakah yang anda rasa terhadap kecukupan pendapatan anda sekarang?

☐ Mempunyai masalah kerana tidak cukup untuk memenuhi keperluan harian

☐ Hanya cukup untuk memenuhi keperluan harian sahaja

☐ Cukup untuk membeli semua yang diinginkan

[] Cukup untuk membeli semua yang diinginkan dan cukup untuk penyimpanan



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BAHAGIAN B: BANTUAN MAKANAN

1. Adakah anda berpuas hati dengan kualiti makanan yang diberikan oleh 'The Lost Food Project'?
☐ Sangat tidak berpuas hati
☐ Tidak berpuas hari
☐ Sederhana
☐ Berpuas hati
☐ Sangat berpuas hati
2. Adakah bantuan makanan yang diterima daripada The Lost Food Project (TLFP) ini membantu anda dan isi rumah anda dari segi bekalan makanan di rumah?
☐ Sangat membantu
☐ Membantu
☐ Sederhana
☐ Tidak membantu
☐ Sangat tidak membantu
3. Bagaimanakah anda menilai tahap kepentingan bantuan makanan daripada The Lost Food Project (TLFP) terhadap anda dan isi rumah?
☐ Sangat penting
☐ Penting
☐ Sederhana
☐ Tidak penting
☐ Sangat tidak penting

4. Jika anda ada **menerima bantuan makanan daripada “The Lost Food Project”**, sila tandakan (/) untuk menunjukkan kekerapan bagi makanan yang diterima dalam jangka masa 12 bulan.

Makanan yang diterima	Kekerapan Dalam jangka masa 12 bulan				
	Lebih daripada 7 kali	5-6 kali	3-4 kali	1-2 kali	Tiada
1. Beras					
2. Mi, bihun					
3. Tepung					
4. Roti					
5. Biskut					
6. Telur					
7. Gula					
8. Susu (tepung atau cecair)					
9. Susu pekat					
10. Susu formula bayi					
11. Minyak masak					
12. Sayur-sayuran (termasuk sayur daun, batang seperti saderi, akar seperti lobak, ubi seperti kentang, mentol seperti bawang, bunga seperti kobis, kekacang seperti kacang buncis dll) Nyatakan:					
13. Buah-buahan Nyatakan:					
14. Minuman bermalta (Contoh: Milo, Horlick, Oligo, Vico dll)					
15. Minuman berperisa (Contoh: kordial, kopi, teh dll)					
16. Sos (Contoh: Sos cili, sos tomato, kicap dll)					
17. Makanan tersedia (Contoh: Nasi lemak, nasi goreng, kuih-muih)					

Arahan: Sila **tandakan** jawapan yang paling tepat pada ruang yang disediakan.

- 
- KEMENTERIAN PENDIDIKAN MALAYSIA
MINISTRY OF EDUCATION

[illegible]

☐ Ya ☐ Tidak

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3. Mengikut piramid makanan (*food pyramid*), kumpulan makanan manakah yang anda boleh **makan secara sederhana**?
- ☐ Sayur-sayuran dan buah-buahan
 - ☐ Lemak, minyak, gula, garam
 - ☐ Nasi, mi, roti, bijirin, produk bijirin
 - ☐ Ikan, ayam, daging dan legum
 - ☐ Tidak tahu
4. Mengikut piramid makanan (*food pyramid*), kumpulan makanan manakah yang anda dinasihatkan untuk **makan sedikit**:
- ☐ Lemak, minyak, garam, gula
 - ☐ Ikan, ayam, daging, legum
 - ☐ Susu dan produk tenusu
 - ☐ Nasi, mi, bijirin, produk bijirin
 - ☐ Tidak tahu
5. Makanan yang **tinggi kandungan garam** ialah:
- ☐ Daging kambing
 - ☐ Kicap soya
 - ☐ Minuman bergas dalam tin
 - ☐ Kangkung
 - ☐ Tidak tahu
6. Jenis zat (*nutrient*) yang memberi paling banyak **tenaga (kalori)** ialah:
- ☐ Vitamin dan mineral
 - ☐ Lemak
 - ☐ Karbohidrat
 - ☐ Protein
 - ☐ Tidak tahu
7. Jenis zat (*nutrient*) yang **membina badan** ialah:
- ☐ Lemak
 - ☐ Vitamin dan mineral
 - ☐ Karbohidrat
 - ☐ Protein
 - ☐ Tidak tahu

8. Antara berikut, makanan manakah yang mengandungi **paling banyak karbohidrat**:
- ☐ [] Ikan
 - ☐ [] Sayur-sayuran
 - ☐ [] Roti dan biskut
 - ☐ [] Buah-buahan
 - ☐ [] Tidak tahu
9. Di antara berikut, makanan manakah yang mengandungi **paling banyak protein**:
- ☐ [] Sayur-sayuran
 - ☐ [] Ayam
 - ☐ [] Roti dan biskut
 - ☐ [] Buah-buahan
 - ☐ [] Tidak tahu
10. Makanan yang **kaya dengan vitamin, mineral dan serat/gentian/serabut (fibre)** adalah:
- ☐ [] Ikan, ayam, daging dan legum
 - ☐ [] Lemak, minyak, garam dan gula
 - ☐ [] Sayur-sayuran dan buah-buahan
 - ☐ [] Nasi, mi, roti, bijirin, produk bijirin
 - ☐ [] Tidak tahu
11. Di antara yang disenaraikan di bawah, makanan **yang paling tinggi kandungan serat/gentian/serabut (fibre)** adalah:
- ☐ [] Ayam dan daging
 - ☐ [] Susu dan produk tenusu
 - ☐ [] Sayur-sayuran dan kekacang
 - ☐ [] Ikan dan makanan laut
 - ☐ [] Tidak tahu
12. Di antara yang disenaraikan di bawah, makanan yang **paling tinggi kandungan kolesterol** ialah:
- ☐ [] Daging kambing
 - ☐ [] Santan kelapa
 - ☐ [] Kuning telur

- ☐ Daging lembu
- ☐ Buah durian
- ☐ Tidak tahu

13. Berikut adalah maklumat yang penting dalam sesuatu label makanan

KECUALI:

- ☐ Cara memasak
- ☐ Nama pengedar/pengeluar
- ☐ Berat atau isipadu produk
- ☐ Bahan-bahan yang digunakan
- ☐ Tarikh luput

14. Senam aerobik (seperti jogging, berbasikal, tarian aerobik, jalan pantas dan berenang) adalah penting untuk:

- ☐ Memperkuatkan tulang
- ☐ Kecantikan badan
- ☐ Pencernaan makanan
- ☐ Kesihatan jantung
- ☐ Tidak tahu

15. **Indeks Jisim Tubuh** (*Body Mass Index*) adalah satu petunjuk

- ☐ Status tinggi badan
- ☐ Status berat badan
- ☐ Corak pengambilan makanan
- ☐ Keadaan darah
- ☐ Tidak tahu

16. Cara memasak yang boleh **meningkatkan kandungan lemak** adalah secara:

- ☐ Panggang (*roast*)
- ☐ Rebus (*boil*)
- ☐ Kukus (*steam*)
- ☐ Goreng (*fry*)
- ☐ Tidak tahu

17. Pengambilan **tenaga (kalori) yang berlebihan** akan mengakibatkan:

- ☐ Penyakit denggi
- ☐ Kegemukan

- ☐ Penyakit batuk kering (TB)
- ☐ Penyakit kulit
- ☐ Tidak tahu

18. **Kegemukan** boleh meningkatkan risiko terhadap penyakit berikut:

- ☐ Penyakit batuk kering (TB)
- ☐ Penyakit malaria
- ☐ Penyakit jantung
- ☐ Penyakit denggi
- ☐ Tidak tahu

19. Untuk mengelakkan kegemukan dan mengekalkan **berat badan yang unggul (*desirable body weight*)** kita perlu mengimbangkan pengambilan makanan dengan:

- ☐ Pengetahuan kita
- ☐ Jenis minuman
- ☐ Aktiviti fizikal
- ☐ Pendapatan kita
- ☐ Tidak tahu

20. Risiko apabila **mengambil makanan yang berlebihan gula** ialah:

- ☐ Penyakit kencing manis
- ☐ Penyakit batuk kering (TB)
- ☐ Penyakit darah tinggi
- ☐ Penyakit malaria
- ☐ Tidak tahu

BAHAGIAN D: STATUS JAMINAN KEDAPATAN PEMAKANAN

Arahan: Sila **tandakan (/)** jawapan yang paling sesuai bagi setiap kenyataan yang berikut.

1.	"Makanan yang (saya/ kami) beli tidak mencukupi, dan (saya/kami) tidak mempunyai wang untuk mendapatkan lebih makanan." Adakah keadaan ini <u>selalu</u>, <u>kadang-kadang</u>, atau <u>tidak</u> benar untuk (anda/isi rumah) untuk tempoh 12 bulan yang lepas? ☐ Selalu benar ☐ Kadang-kadang benar ☐ Tidak benar ☐ Tidak tahu atau Menolak
2.	"(Saya/ kami) tidak mampu untuk makan makanan yang seimbang." Adakah keadaan ini <u>selalu</u>, <u>kadang-kadang</u>, atau <u>tidak</u> benar untuk (anda/isi rumah) untuk tempoh 12 bulan yang lepas? ☐ Selalu benar ☐ Kadang-kadang benar ☐ Tidak benar ☐ Tidak tahu atau Menolak
3.	Sepanjang tempoh 12 bulan yang lepas, adakah (anda/isi rumah dewasa) mengurangkan saiz makanan atau tidak makan kerana tidak cukup wang untuk membeli makanan? ☐ Ya (Terus soalan 3a) ☐ Tidak (Terus soalan 4) ☐ Tidak tahu (Terus soalan 4)
3a.	Jika Ya, berapa kerap perkara seperti ini berlaku? ☐ Hampir setiap bulan

	☐ Beberapa bulan tetapi bukan setiap bulan ☐ Hanya 1 atau 2 bulan ☐ Tidak tahu
4.	Sepanjang tempoh 12 bulan yang lepas, adakah anda makan kurang daripada apa yang anda rasa sepatutnya kerana tidak cukup wang untuk membeli makan? ☐ Ya ☐ Tidak ☐ Tidak tahu
5.	Sepanjang tempoh 12 bulan yang lepas, adakah anda pernah kelaparan tetapi tidak makan kerana tidak cukup wang untuk membeli makanan? ☐ Ya ☐ Tidak ☐ Tidak tahu

BAHAGIAN E: STRATEGI DAYA TINDAK TIADA JAMINAN KEDAPATAN

MAKANAN

Soalan: Dalam sebulan yang lepas, berapakah kekerapan anda menggunakan strategi-strategi daya tindak berikut **DISEBABKAN TIDAK CUKUP MAKANAN** atau **DUIT UNTUK MEMBELI MAKANAN**?

Terdapat lima (5) pilihan jawapan iaitu tiap-tiap hari (1), 3-6 kali seminggu (2), 1-2 kali seminggu (3), kurang daripada 1 kali seminggu (4) dan tidak pernah (5). Anda hanya perlu memilih satu (1) jawapan dan menandakan (/) untuk setiap satu (1) soalan.					
	Setiap hari	3-6 kali seminggu	1-2 kali seminggu	Kurang daripada 1 kali seminggu	Tidak pernah
Menggunakan/mengambil makanan yang murah (Contoh: makanan dalam tin)					
Menggunakan/mengambil makanan yang kurang digemari					
Memakan apa jua bahan makanan yang diperolehi daripada sekeliling rumah. (Contoh: ulam, ubi kayu)					
Menerima bantuan makanan daripada agensi/jiran/adik beradik/majikan/individu.					
Meminjam duit untuk membeli makanan daripada majikan / kawan / jiran / adik-beradik.					
Membeli bahan makanan secara berhutang.					
Menghantar anak-anak makan di rumah ibubapa / adik-beradik / jiran.					

Terdapat lima (5) pilihan jawapan iaitu tiap-tiap hari (1), 3-6 kali seminggu (2), 1-2 kali seminggu (3), kurang daripada 1 kali seminggu (4) dan tidak pernah (5). Anda hanya perlu memilih satu (1) jawapan dan menandakan (/) untuk setiap satu (1) soalan.

	<i>Setiap hari</i>	<i>3-6 kali seminggu</i>	<i>1-2 kali seminggu</i>	<i>Kurang daripada 1 kali seminggu</i>	<i>Tidak pernah</i>
Memperuntukkan duit untuk membeli makanan asas dan makanan kurang digemari kerana murah.					
Mengurangkan bilangan sajian makanan dalam sehari.					
Keutamaan memberi anak-anak makan terlebih dahulu dan sekiranya terdapat makanan lebih akan diberi kepada ahli keluarga yang lain.					
Tidak makan sepanjang hari.					
Mengecilkan bahagian saiz makanan atau bilangan hidangan dalam satu sajian.					

SOALAN TAMAT

Terima kasih atas kerjasama anda. Sila kembalikan borang soal selidik ini kepada penyelidik.

Application letter for the list of PPR under supervision of DBKL



FAKULTI PERUBATAN DAN SAINS KESIHATAN
FACULTY OF MEDICINE AND HEALTH SCIENCES

Rujukan kami : UPM/JPEM/TLFP (02)
Tarikh : 19 Januari 2021

Pengarah,
Jabatan Pembangunan Komuniti dan Kesejahteraan Bandar,
Tingkat 4-9, Menara DBKL 3, Bandar Wawasan,
Jalan Raja Abdullah, 50300 Kuala Lumpur.

Tuan,

PERMOHONAN SENARAI NAMA PROJEK PERUMAHAN RAKYAT (PPR) DI BAWAH KELOLAAN DEWAN BANDARAYA KUALA LUMPUR (DBKL)

Dengan segala hormatnya, perkara diatas adalah dirujuk.

2. Saya, Prof. Madya Dr. Norhamzah binti Sulaiman, penyidik daripada Jabatan Pemakanan, Fakulti Perubatan dan Sains Kesihatan, Universiti Putra Malaysia (UPM), ingin memohon senarai nama Projek Perumahan Rakyat (PPR) di bawah kelolaan Dewan Bandaraya Kuala Lumpur (DBKL).

3. Untuk makluman pihak tuan, pihak kami berhasrat untuk menjalankan kajian yang bertujuan untuk mengkaji keberkesanan program 'The Lost Food Project (TLFP)' oleh sebuah badan bukan kerajaan iaitu Persatuan Projek Bantuan Lebihan Makanan terhadap status tiada jaminan kedapatan makanan, status pemakanan dan kualiti hidup berkaitan kesihatan. Senarai nama PPR tersebut diperlukan untuk membantu kami menentukan kaedah persampelan yang tepat dan menentukan saiz sampel yang diperlukan bagi menjalankan kajian ini. Di samping itu, senarai ini juga diperlukan untuk membantu kami mengatur strategi dalam pengumpulan data secara berkesan dan cekap.



دewan Bandaraya Kuala Lumpur

DEWAN BANDARAYA KUALA LUMPUR

JABATAN PEMBANGUNAN KOMUNITI DAN KESEJAHTERAAN BANDAR

TINGKAT 4 - 9, 12 & 16
MENARA DBKL 5, BANDAR WAWASAN
JALAN RAJA ABDULLAH
50000 KUALA LUMPUR



Rujukan Tuan :
Rujukan Kami : DBKL/JPKKB/SP2/29-3 Jld 10 | 2 |
Tarikh : 27 Januari 2021
14 Januari 1442H

UNIVERSITI PUTRA MALAYSIA

Fakulti Perubatan Dan Sains Kesihatan
43400 UPM Serdang
Selangor Darul Ehsan

(U/P: PROF. MADYA DR NORHASMIAH BINTI SULAIMAN)

Puan,

PERMOHONAN SENARAI NAMA PROJEK PERUMAHAN RAKYAT (PPR) DI BAWAH DEWAN BANDARAYA KUALA LUMPUR, (DBKL)

Dengan segala hormatnya saya merujuk kepada emel puan bertarikh 11 Januari 2021 berhubung perkara di atas.

2. Sukacita dimaklumkan bahawa pihak Jabatan Pembangunan Komuniti dan Kesejahteraan Bandar (JPKKB) telah meneliti permohonan daripada UNIVERSITI PUTRA, DBKL tiada halangan untuk memberikan maklumat kawasan Perumahan PA/PPR untuk tujuan mengkaji keberkesanan program "The Last Food Project (TLFP)" oleh Persatuan Projek Buntutan Labihan Makanan di Kawasan Perumahan DBKL. Bersama-sama ini dilampirkan maklumat yang diminta untuk tindakan puan. (Silu Rujuk Lampiran)

3. Segala maklumat yang diberikan adalah **SULIT** dan tidak boleh **DIDEDAHKAN** kepada mana-mana pihak bagi apa jua jenis tujuan dan hanya terpakai bagi pelaksanaan program "The Last Food Project (TLFP)" oleh Fakulti Perubatan Dan Sains Kesihatan sahaja. Ini selaras dengan **AKTA RAHSIA RASMI 1972** dan pihak DBKL boleh mengenakan tindakan undang-undang jika maklumat ini digunakan selain daripada tujuan ini.

4. Segala kerjasama dari pihak tuan amatlah dihargai dan didahului dengan ucapan terima kasih.



TELEFON: 63-2617066 FAKS: 63-2681722 TELEKSI: DBKL MA 0063 KAWAT DATO BANDAR

Permission letter to the management offices



FAKULTI PERUBATAN DAN SAINS KESIHATAN
FACULTY OF MEDICINE AND HEALTH SCIENCES

Rujukan kami : UPM/JPEM/TLFP (04)
Tarikh : 16 Mac 2021

PUAN SAADIAH BINTI HASHIM
Pejabat Pengurusan Zon 3,
Blok 39,
Rumah Pangsa Seri Perak,
Bandar Baru Sentul Fasa 1C,
51000, Kuala Lumpur
Wilayah Persekutuan Kuala Lumpur.

Puan,

**PERMOHONAN KEBENARAN MENJALANKAN KAJIAN PENYELIDIKAN DI
PROJEK PERUMAHAN RAKYAT (PPR) DAN PERUMAHAN AWAM (PA) DI
KAWASAN ZON 3, WILAYAH PERSEKUTUAN KUALA LUMPUR**

Dengan segala hormatnya perkara di atas adalah dirujuk.

2. Saya, Prof. Dr. Norhasmah binti Sulaiman, penyelidik daripada Jabatan Pemakanan, Fakulti Perubatan dan Sains Kesihatan, Universiti Putra Malaysia (UPM), ingin memohon kebenaran daripada pihak puan untuk menjalankan penyelidikan di beberapa Projek Perumahan Rakyat (PPR) dan perumahan awam (PA) di sekitar kawasan Zon 3 di Wilayah Persekutuan Kuala Lumpur.

3. Untuk makluman pihak puan, kajian ini bertujuan untuk mengkaji keberkesanan program "The Lost Food Project (TLFP)" oleh sebuah badan bukan kerajaan iaitu Peratuan Projek Bantuan Lebihan Makanan terhadap status tiada jaminan kedapatan makanan, status pemakanan dan kualiti hidup berkaitan kesihatan. Selain itu, kajian ini juga ingin mengkaji perbezaan penerima dan bukan penerima bantuan makanan daripada TLFP dari segi latar belakang sosioekonomi, tahap pengetahuan pemakanan dan status tiada jaminan kedapatan makanan. Hasil kajian ini dapat membantu pihak berkepentingan seperti pihak yang melaksanakan program TLFP dalam menambah baik strategi pelaksanaan program disamping membantu menyelesaikan masalah jaminan kedapatan makanan dan mengurangkan masalah pengurusan lebihan makanan dan pembuangan sisa makanan di Malaysia.

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