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CONTENT**PAGE**

Researching Food-Borne Disease and The Lifestyle of Students and Food Handlers in Rural Schools of Sarawak: A Preliminary Findings	1
Food Safety Health Education to Food Handlers at Ramadan Bazaar in Sarawak	31
Pengaruh Infografik Kesehatan Melalui Facebook Jabatan Kesehatan Negeri Pahang Terhadap Literasi Kesehatan Masyarakat Berkaitan COVID-19	47
Client's Satisfaction: Upsurge of Access to Health for the Rural and Remote Population through Mobile Health Clinic	79
Penerimaan Mesej Kesehatan Bagi Mengawal Berat Badan dan Melakukan Aktiviti Fizikal Dalam Kalangan Pesakit Diabetes	93

RESEARCHING FOOD-BORNE DISEASE AND THE LIFESTYLES OF THE STUDENTS AND FOOD HANDLERS IN RURAL SCHOOLS OF SARAWAK: A PRELIMINARY FINDINGS¹

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Abstract

Food-borne diseases cause millions of deaths every year around the world. The major factors contributing to food-borne diseases and the prevalence of food poisoning among students are the food preparation process, lifestyles, physical cleanliness and water supplies. Food mismanagement by food handlers as well as the poor knowledge of students and food handlers on food hygiene are the factors that lead to food poisoning among school students. The objectives of this study are to: investigate how food handlers carry out food preparation; determine students' and handlers' standards of the food hygiene; assess the physical cleanliness of school canteens and the purity of their water supplies; and develop guidelines for the prevention of food poisoning. The aspects that are investigated in this study are the food preparation process, knowledge of food hygiene, physical cleanliness, and food poisoning prevention methods. The study was conducted in Sarawak and focused on students and food handlers. The current unprecedented Covid-19 pandemic and the rise of Covid-19 cases in Sarawak have caused local authorities to close the schools and there have been restrictions on inter-district travel under the government's Conditional Movement Control Order (CMCO). The researcher thus decided to use questionnaires administered through Google Forms, WhatsApp's, Computer-Assisted Telephone

1 This paper is submitted in part fulfilment of the requirements for the Doctor of Philosophy (PhD) degree programme.

Interview (CATI) and Computer Assisted Personal Interview (CAPI). Quota sampling was adopted in selecting research participants. In-depth interviews, questionnaires and focus group discussions were the main data collection methods. The final outcome might be the creation of new knowledge related to food poisoning prevention and the findings may presumptively have implications on Malaysia's health policy relating to food-borne diseases.

Keywords: Food-borne diseases, food handlers, food preparation process, food poisoning prevention, physical cleanliness

1. INTRODUCTION

This is a finding paper on food-borne diseases as well as food handlers' and students' lifestyles. This paper will briefly discuss the food preparation process, knowledge of hygiene, attitudes and behaviours relating to food preparation practices, physical cleanliness and food poisoning prevention.

Food-borne diseases such as cholera, typhoid fever, hepatitis A, dysentery and food poisoning occur because of the consumption of food contaminated with chemicals and microorganisms (Sharifa Ezat, Netty & Sangaran, 2013). *Salmonella* bacteria are the main cause of food-borne illnesses around the world and they are normally transmitted to humans through the consumption of contaminated food of animal origin such as eggs, chicken, meat and milk (World Health Organization, 2019). This study focused on food-borne diseases and particularly, on food poisoning among school students. Food-borne diseases' causes and lifestyles are interrelated (Sharifa Ezat, Netty & Sangaran, 2013). The incidence of food poisoning might have increased because food handlers ignore the importance of safe food handling and the correct way to prepare food in the kitchen (Abdul-Mutalib et al., 2015).

Studies in New Zealand found that food handling practices is still the main threat circumstance for food-borne diseases. Therefore, the causes of poor practices need to be investigated (Al-Sakkaf, 2013). School premises are checked and school food handlers have been trained to practise safe food handling but food poisoning outbreaks still occur (New et al., 2017). In Malaysia, different ethnic groups practise different food preparation approaches and hygiene directly associated with the socio-cultural differences, dietary and culinary practices of each group (Sharifa Ezat, Netty & Sangaran, 2013). Data from sociological approaches are important to develop a disease control message which can affect behavioural change and can be applied in the development of future food safety training modules.

Statistics provided by Pejabat Kesihatan Betong indicated that Betong, Sarawak was the location where the highest number of food poisoning cases occurred. In Sarawak, the number of food poisoning cases reported was higher among Malay students than Iban students (Health Informatics Centre, Ministry of Health Malaysia, 2018). Data obtained from Pejabat Kesihatan Daerah Betong (2019) for instance, showed that Malay students under 18 years old accounted for 113 out of the 183 cases reported in 2017 and 137 out of the 148 cases reported in 2018 (Pejabat Kesihatan Daerah Betong, 2019). In 2010, approximately 3,822 cases were reported. This figure increased to 5,265 cases in 2013. The highest number of food poisoning cases (8,000) was in 2015. As school students represent the majority of food poisoning cases, they can be considered particularly vulnerable to food poisoning, and the consumption of contaminated food from school canteens may be implicated. The statistics motivated the researcher to study schools' food preparation processes and food handlers' practices. Information on sociocultural influences on food safety in the population, particularly in Sarawak, is still lacking. Therefore, this study took socio-cultural aspects of hygiene practices among food handlers and students into consideration for the prevention of food poisoning in the future.

1.1 Objectives

This study emphasized several objectives such as

- i. To investigate the food preparation processes used by canteen food handlers in rural schools in Sarawak.
- ii. To determine the level of knowledge, attitudes and behaviours regarding food hygiene among food handlers and students.
- iii. To assess the physical cleanliness of school kitchens, canteens and water supplies in the light of best practices.

This paper discusses the objectives of food preparation processes used by canteen food handlers in rural schools in Sarawak and the level of knowledge, attitudes and behaviours regarding food hygiene

among the students and food handlers. The target groups for this study were primary and secondary school students and canteen food handlers.

1.2 Literature review

This section describes the food preparation processes their hygiene and safety that food handlers use; food handlers' and school students' knowledge, attitudes and behaviours related to hygiene in food preparation practices; schools' physical cleanliness and food hygiene; and last but not least, methods that food handlers and school students should adopt to prevent food poisoning.

The Processes of Food Preparation and Their Hygienic Safety

Studies have shown that most food handlers did not follow safe food preparation practices. They prepared foods too early before consumption, i.e. in the morning or even the day before, allowing bacteria to grow due to high humidity levels and temperatures (Collins, 1997). Moreover, food handlers practised poor personal hygiene in food preparation. Mishandling and poor refrigeration of foodstuffs were the main causes of contamination (Collins, 1997). Another issue was the lack of safe food preparation facilities resulting in, for example, cross-contamination of raw and cooked food as well as contaminated utensils and plates (Venter, 2000).

Lack of awareness on the dangers of storing food at the wrong temperature in refrigerators could lead to food-borne diseases (Johnson, Donkin & Morgan et al., 1998). Most reported cases of food-borne diseases were due to improper storage, inadequate cooking and cross-contamination (Kennedy et al., 2005). Food handlers lacked knowledge as to the correct temperatures for food storage, as well as preparation and acceptable methods to thaw frozen foods. Good temperature control was crucial to keep foods fresh and food kept at the wrong temperature might be subjected to contamination (Sharif, Obaidat & Al-Dalalah, 2013).

Studies (Dora-Liyana et al., 2018; Venter, 2000) showed that food poisoning occurred mostly in schools. They suggested that the short time available for the mass preparation of meals daily in a conventional kitchen might have contributed to this (Dora-Liyana et al., 2018). Food handlers tended to prepare the food early in the morning or even the day before, probably increasing the incidence of bacterial growth in food, leading to food poisoning. The study found that basic food handling practices such as food handlers' routines in schools were missing. Venter (2000) pointed out the lack of safe food preparation facilities. Refrigerators, cooking utensils and equipment in good condition were crucial for keeping raw materials fresh and safe.

Mjoka & Selepe (2018) found that most food handlers did have knowledge of hygienic practices, but just did not apply that knowledge. Most, but not all food handlers did practise hygiene. The issue of why food handlers did not apply their good knowledge of hygiene and comply with good hygiene standard operation procedures (SOPs) captured the researcher's attention.

Knowledge, Attitudes and Behaviours Concerning Hygiene in Food Preparation Practices

The level of hygiene awareness among the students and food handlers is exemplified by their knowledge, attitudes and behaviours towards hygiene. Food handlers and students had low levels of awareness of hygiene (Dora-Liyana et al., 2018; Venter, 2000). Therefore, food poisoning cases among school students remained high. It is important to understand the human behaviours related to food preparation practices to avoid food poisoning.

Earlier studies related to hygiene awareness and food handling (Dora-Liyana et al., 2018; Venter, 2000) found that food handlers had a poor attitude and lack of knowledge concerning hygiene in food preparation. Venter (2018) found that dietary habits, such as

the consumption of raw or hazardous foods for rituals and cultural beliefs, caused food-borne diseases. Dora-Liyana et al. (2018) also found that preparing food too early, improper thawing methods, improper food holding temperatures and refrigeration equipment malfunction caused food poisoning. Moreover, food handlers showed low levels of personal cleanliness; for instance, not keeping fingernails short or covering the hair with a cap. They often ignored the correct handwashing steps, handled foods without using masks and gloves, and talked while handling food (Dora-Liyana et al., 2018). Food handlers lacked knowledge of how to keep equipment hygienic (for example, they reused dish towels to wipe plates) and the use of different chopping boards for raw and cooked foods to prevent cross-contamination.

A report by Institut Penyelidikan Tingkahlaku Kesihatan (IPTK) in 2017 stated that the Ministry of Health Malaysia (MOH) concluded that food handlers did not strictly follow the MOH's safe food preparation guidelines. Furthermore, the food handlers' and students' awareness of hygiene was poor or lacking - they might not be aware of the correct temperatures for food storage and preparation and how to thaw frozen foods (Sharif, Obaidat & Al-Dalalah, 2013). Dora-Liyana et al. (2018) reported that food handlers overcame the shortage of food preparation time available by mass preparation of meals or preparation a day earlier. They also found food handlers to have poor standards of personal hygiene and lack knowledge of equipment hygiene, thus, for example, they reused dish towels to wipe plates, leading to food contamination. Moreover, dietary habits, such as the consumption of raw or hazardous foods for rituals and cultural beliefs, also resulted in exposure to contaminated food (Venter, 2000). Food handlers should comply strictly with the standard operation procedures (SOPs) set by the MOH to reduce and prevent food poisoning in schools. MOH should strengthen and strictly enforce knowledge and awareness of food hygiene among food handlers. The practice of preventative behaviour by food handlers and students is crucial for preventing food poisoning.

Soon, Singh & Bains (2011) claimed that unhygienic food handling and lack of cleanliness in food preparation, people's poor hygienic practices and insanitary food handling procedures, as well as knowledge and attitudes towards food safety need to be emphasized to reduce food-borne diseases in schools. Abdul-Mutalib et al. (2015) suggested that insanitary food handling procedures contributed to more than 50% of reported food poisoning cases. They stated that contamination would occur when meat came into contact with animal skin, fur or intestines in the kitchen during food preparation due to mishandling because food handlers ignored the correct way to prepare foods and did not keep practising a high standard of kitchen hygiene including on cooking utensils and kitchen counters. They also noted that consumers preferred to buy cheap food, not considering whether it was hygienic and safe to eat. Venter (2000) found that dietary habits such as the consumption of raw or hazardous foods for rituals and cultural beliefs caused food-borne diseases.

Cowan (2019) found that food handlers did not pay strict attention to personal hygiene while Sharifa Ezat, Netty & Sangaran, (2013) noted a lack of education in the basic rules for hygienic food preparation. The findings could be related to genetic or socio-cultural differences between ethnic groups related to dietary and culinary practices. For example, Sharifa Ezat, Netty & Sangaran (2013) found that the Hmong community in China had little knowledge of food-borne diseases and community cultural practices involved poor food storage and preparation, thus increasing the risk of food poisoning. However, the Chinese community had the lowest rate of acute diarrhoea among various races because most of their food was usually served hot from the wok. The food was cooked and consumed immediately, reducing the risk of food poisoning (Sharifa Ezat, Netty & Sangaran, 2013).

Ehiri and Morris (2013) stated the lack of use of information on sociocultural influences on food safety. Food habits and beliefs of a population were crucial. There was a need to apply sociological methods, such as identification of impacts on food safety in a

population, in future training programs in order to change human behaviour. According to Ling et al. (2021), the failure to use sociocultural information is related to food handlers' cultural values, beliefs and practices regarding food preparation. The findings could be related to genetic or sociocultural differences between ethnic groups related to dietary and culinary practices. Training did not take cultural values into consideration. The basic food handling practices in terms of food handlers' guidelines and routines in schools were missing (Ling et al., 2021).

Safe food preparation practices are often associated with kitchen culture, safe food guidelines and practices. A better understanding of beliefs, practices and cultural values are needed to upgrade existing guidelines and practices. A knowledge gap regarding sociocultural aspects of food poisoning prevention is apparent: one example is Malay food handlers' cultural values, beliefs and practices in respect of food preparation. The researcher found that current training did not take these aspects into consideration.

Physical Cleanliness and Food Hygiene

Physical cleanliness, or the cleanliness of the environment where food is prepared and served, is important and food handlers need to give this strong emphasis. Waste management, (food and solid waste) can result in food contamination when food waste is dumped down drains or in uncovered bins. Kitchen surfaces and floors should be cleaned continuously; before, during, and after food preparation (Norazla & Nor Atirah, 2019).

The food should be covered and protected from flies, mice, cockroaches and dust; and the right utensils, rather than hands, should be used to pick up the food. Food should not be put on or prepared on the floor, but on a clean table (Bahagian Keselamatan dan Kualiti Makanan (MOH), 2020).

Most rural schools have poor and unhygienic physical environments and water supplies contributing to food contamination.

Adams et al. (2009) claimed that inadequate water supplies, sanitation and a lack of handwashing among students in rural schools contributed to food poisoning. In addition, food handlers have been ignoring the importance of safe food handling in the kitchen (Abdul-Mutalib et al., 2015). Ignorance of food safety principles and practices among food handlers and students will cause major health problems. A clean and hygienic kitchen and environment are significant in the effective prevention of food-borne diseases.

Abdul-Mutalib et al. (2015) stated, the kitchen and its surroundings should be kept clean and free from dirt, flies and germs. The cooking utensils, plates, cups and other utensils should be kept clean. Waste should be disposed of in dedicated trash cans provided with lids. Other factors to consider are the protection of the water source, proper disposal of solid waste and excreta, wastewater drainage, banning animal rearing in the vicinity of kitchens and environmental hygiene in general. The lack of a clean water supply and an unhygienic environment will lead to cases of food poisoning.

Some food handlers were found to practise good physical cleanliness. Tan et al., (2013) found food handlers in selected schools demonstrated that they had a basic knowledge of good personal hygiene. However, not many studies have been done on this particular issue.

Food Poisoning Prevention Through Behavioural Changes

In the context of public health, behavioural change is referring to efforts to change people's personal habits and attitude to prevent diseases. Educating people about the steps they must take to prevent and control food-borne illness is important in the food preparation chain. At all stages of food preparation, food-borne illness could have happened due to a lack of knowledge of the risks involved (Collins, 1997).

Food poisoning could be prevented if the storage of food below 40-degree Celsius (°C) within four hours after preparation is

always observed (Hurst, 2010). Good personal hygiene and good hand washing habits are essential in preventing contamination. For example, food handlers must avoid hand contact with cooked foods. Good sanitation practices can prevent cross-contamination. Raw and cooked foods should be prepared separately on different equipment (Tan et al., 2013). Regular hand-washing is the best way to contain the spread of food-borne diseases. The effective steps in preserving food are handwashing, thorough cooking, keeping raw and cooked foods separate, storage and proper refrigeration, and throwing out spoiled foods (Dennis, 2014).

Food poisoning can be prevented if food handlers and students comply strictly with the rules. For instance, food handlers must wash their hands before they handle food and always during food preparation. Food handlers must separate raw and cooked foods by the use of different chopping boards and utensils (Ramful & Menon, 2017). In addition, food handlers must cook food at high temperatures to kill all the microorganisms. Next, food handlers must store the food in a refrigerator at the correct temperature. It should be compulsory for food handlers to wear a mask and gloves during food preparation (Ramful & Menon, 2017). Students must wash their hands and use hand sanitizer regularly to make sure their hands are free of viruses and bacteria before they consume food. According to Ramful & Menon (2017), food-borne diseases could be prevented with proper food handling and maintenance of good practices and hygiene. Food poisoning can be prevented to the extent that handlers and students comply with food safety rules and food poisoning prevention practices.

Food-borne disease is preventable with proper food handling and a focus on good practices and hygiene (Ramful & Menon, 2017). The five methods to safe food practices are: wash hands before handling food and always during food preparation; separate raw and cooked foods; cook food thoroughly for two minutes at about 70°C to kill all microorganisms; store food in a refrigerator at a safe temperature (about 5°C); use safe water and raw materials.

In addition, food handlers should practice good hygiene: use the right refrigerator temperature for chilling and storage, wear gloves and a mask to maintain personal hygiene, only prepare food when in good health, and wash hands regularly (Ramful & Menon, 2017).

2. METHODOLOGY

The data had been collected from eight (8) schools in Betong involving 230 students (i.e. 215 primary school students and 15 secondary school students) and 13 food handlers. The data collection was conducted using Google Forms and the questionnaire was distributed through Google Forms, WhatsApp, Computer-Assisted Telephone Interview (CATI), and Computer Assisted Personal Interview (CAPI). The English version of the questionnaire was converted into a Bahasa Malaysia version which was easier for the primary students to understand. The questionnaire consisted of three modules i.e. Module A: Demography, Module B: Hygiene, Physical Facilities and Environment; and Module C: Awareness, Knowledge, Attitude and Behaviour among Students towards Food Hygiene. A 5-point Likert scale consisting of “Strongly agree”, “Agree”, “Neutral”, “Disagree” and “Strongly disagree” was used as the response options. Data collected from this study were processed and analyzed using the Statistical Package for Social Sciences (SPSS).

The questionnaire was thoroughly reviewed by a panel comprising of health care professionals (1 public health officer, 1 health education officer and 2 lecturers from Universiti Malaysia Sarawak (UNIMAS). The purpose of this content validation was to ensure the questions were not ambiguous and the content was appropriate. The same questionnaire had been distributed to primary and secondary school students. As a result, the questionnaire was amended using KAP (Knowledge, Attitude and Practice) survey model and adopted Soal Selidik Kajian Faktor Yang Mempengaruhi Pencemaran Makanan di Kantin Sekolah di bawah KPM di Kelantan (Zawaha et al. 2007) as a reference.

Data were collected from Betong, Sarawak. Eight (8) schools with the highest number of food poisoning cases were identified: Sekolah Kerajaan (SK) Maludam, SK Tambak, SK Tui, SK Semarang, SK Kalok, Sekolah Menengah Kerajaan (SMK) Pusa, SMK Ulu Layar and SMK Beladin. The Economic Planning Unit (Reference number:(16)JKM/SPU/608-8/2/1 Vol.3) and Kementerian Pendidikan Malaysia (KPM) (Bil.KPM.600-3/2/3-ERAS(8886) and (Reference number: JPNSW.SKPP.LAT.600-1/1/1 Jld.9(68) approved the data collection activities. The university research ethics committee also approved this research data collection as some respondents might be underage (UNIMAS/NC-17.04/04-01 Jld. 1(4)).

This study used the quantitative methods to answer the research questions. The study population size was 4,442 students and all school canteen food handlers for 12 schools in the Betong area. The sample size was 1,329 students. The focused sample comprised primary school students (Primary 4 to Primary 6) and secondary school students (Form 1 to Form 5). A 30% coverage rate was applied to each of the primary and secondary levels. After a review of sampling techniques, it was decided to adopt non-probability sampling, i.e. quota sampling. Quota sampling suited this study best because respondents were selected based on specific characteristics such as the same age, race and gender. The research instruments were questionnaires, interview templates, in-depth focus group discussions (FGD) and observations on the physical environment. The questionnaire used exhaustive response categories questions with open-ended and closed-ended questions and was tested and validated prior to data collection. Semi-structured and structured interviews were used. Data analysis software to be used included SPSS for quantitative data and ATLAS.ti for qualitative data. Ethical issues were resolved using the Nuremberg Code guidelines. The triangulation technique, involving the incorporation of multiple methods such as observation, open or structured questions, and an in-depth study of the phenomenon in question, were used to increase data validity and reliability and reduce research bias.

This paper focused on quantitative analysis, the focus groups for this study were primary and secondary school students and canteen food handlers. For analysis of data, Statistical Package for Social Sciences software, version 16.0 (SPSS Inc., Chicago, IL) was used. Initially, all information gathered via questionnaire was coded into variables. The data analysis adopted descriptive statistics and frequencies.

3. RESULTS

(i) This section was about the demographic profile of the respondents and the level of knowledge, awareness, attitude and behaviour among students towards food hygiene.

Table 1: Demographic Profile of Students

Variables	Frequency	(%) Percentage
Gender		
Male	128	55.7
Female	102	44.3
Races		
Malay	211	91.7
Iban	13	5.7
Bidayuh	1	0.4
Others	4	1.7
Occupation		
Student	230	100
Highest education		
Primary 1-5	196	85.2
Primary 6	11	4.8
Form 3	3	1.3
Form 5	5	2.2
Form 6	15	6.5

Table 1 had shown the demographic profile of the students consisting of gender, ethnicity, working status and educational levels. A number of [128 or 55.7% of students were male, whereas 102 or 44.3% of students were female. The majority of the respondents were Malays (211 or 91.7%), 13 respondents were Iban, 1 was Bidayuh and 4 respondents were others]. There were a total of 230 full-time students. In terms of educational level, 207 or 90% were from primary school, 14 or 6.1% students were from secondary school and 9 or 3.9% were from others.

The data in Table 2 shows that 182 students or 79.2% knew that food poisoning such as stomach pain, diarrhoea and vomiting can be prevented if they consume food with clean hands. However, only 52 or 22.6% of students had knowledge on correct hand washing steps. In addition, 105 or 45.7% of students had knowledge that a warm kitchen or room temperature will increase the rate of germ reproduction. 181 or 78.8% of the students were aware that raw foods and cooked foods should be segregated to prevent food contamination. 169 students or 73.6% had good knowledge on cutting fruits and raw meat using a separate cutting board. Last but not least, a total of 181 students or 78.7% had satisfactory knowledge that hand towels should be washed regularly after every use.

Table 2: Knowledge, Awareness, Attitude and Behaviour among Students towards Food Hygiene.

Statements	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
i. Food Poisoning such as stomach pain, diarrhoea and vomiting can be prevented if we consume food with clean hands	160(69.6)	22(9.6)	18(7.8)	7(3.0)	23(10)
ii. There are three (3) steps of correct handwashing	100(43.4)	35(15.2)	43(18.7)	19(8.3)	33(14.3)
iii. Expiration dates on food and beverage packaging are important	162(70.4)	29(12.6)	16(7.0)	6(2.6)	17(7.4)
iv. A polluted environment does not cause food contamination	43(18.7)	12(5.2)	12(5.2)	12(5.2)	151(65.7)
v. Food which has spoiled and smelled is not safe to eat	170(73.9)	20(8.7)	13(5.7)	6(2.6)	21(9.1)
vi. Food that contain hair will cause health problem if eaten	112(48.7)	37(16.1)	31(13.5)	21(9.1)	29(12.6)
vii. Food exposed to flies or cockroaches is not safe to eat	154(67)	25(10.9)	15(6.5)	6(2.6)	30(13.0)
viii. A warm kitchen or room temperature will increase the rate of germ reproduction	65(28.3)	40(17.4)	57(24.8)	15(6.5)	53(23.0)

Statements	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
ix. Kitchen utensils that are not washed with detergent can result in food contamination	135(58.7)	44(19.1)	14(6.1)	10(4.3)	27(11.7)
x. Towels used for wiping hands can be used to wipe dishes	22(9.6)	17(7.4)	15(6.5)	23(10)	153(66.5)
xi. Raw food and cooked food should be segregated to prevent food contamination	142(61.8)	39(17)	22(9.6)	7(3.0)	20(8.7)
xii. The canteen kitchen needs to be protected from pests such as rats and lizards	163(70.9)	23(10)	11(4.8)	7(3.0)	26(11.3)
xiii. Repeated use of cooking oil is bad for the health	124(53.9)	33(14.3)	29(12.6)	15(6.5)	29(12.6)
xiv. Chemicals such as rat poisons and insecticides can be stored near raw materials such as rice, onions and flour	27(11.7)	11(4.8)	14(6.1)	23(10.0)	155(67.4)
xv. Cut fruits and raw meat using a separate cutting board	133(57.9)	36(15.7)	24(10.4)	13(5.7)	24(10.4)
xvi. Hand towels can be used repeatedly without washing	16(7.0)	14(6.1)	19(8.3)	21(9.1)	160(69.6)

(ii) This section was about the demographic profile of the respondents and the level of knowledge, awareness, attitude and behaviour among food handlers towards food hygiene. Table 3 had shown the demographic profile of the food handlers consisting of gender, races, working status and educational levels. A number of 13 or 100% were male. Majority of the respondents were Iban (9 or 69.2%), 1 respondent was Malay and 3 respondents were others. There were a total of 13 private employees. In terms of educational level, 9 respondents were from form 6, 2 respondents were from form 5, 1 respondent was from form 3 and 1 respondent was from others.

Table 3: Demographic Profile of Food Handlers

Variables	Frequency	Percentage (%)
Gender		
Male	13	100
Races		
Malay	1	7.7
Iban	9	69.2
Others	3	23.1
Occupation		
Private employee	13	100
Highest education		
Form 3	1	7.7
Form 5	2	15.4
Form 6	9	69.2
Others	1	7.7

Table 4: Knowledge, Awareness, Attitude and Behaviour among Food Handlers towards Food Hygiene.

Statements	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
i. I don't have to wash my hand by following 7 correct steps when busy serving customers	6(46.2)	3(23.1)	3(23.1)	-	1(7.7)
ii. The canteen's physical environment affects food safety	5(38.5)	3(23.1)	4(30.8)	-	1(7.7)
iii. Unsold food can be stored in the refrigerator for resale	2(15.4)	1(7.7)	3(23.1)	1(7.7)	6(46.2)
iv. Food to be sold to students does not need to be covered	3(23.1)	2(15.4)	1(7.7)	-	7(53.9)
v. Unboiled water can be used to brew drinks	1(7.7)	3(23.1)	1(7.7)	1(7.7)	7(53.9)
vi. Food that has been left for more than 4 hours can be eaten	-	-	7(53.9)	-	6(46.2)
vii. I don't have to take off watches, rings or bracelets before preparing food.	6(46.2)	2(15.4)	-	-	5(38.5)
viii. Clean cooking utensils can produce clean and safe food	7(53.9)	3(23.1)	1(7.7)	1(7.7)	1(7.7)

Statements	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
ix. Hand towels can be used repeatedly without washing	1(7.7)	2(15.4)	2(15.4)	2(15.4)	6(46.2)
x. Food that is still hot can be put into the refrigerator	2(15.4)	5(38.5)	2(15.4)	1(7.7)	3(23.1)
xi. I must always wash hands after touching raw material	8(61.5)	3(23.1)	1(7.7)	-	1(7.7)
xii. I don't care about the cleanliness of the canteen	2(15.4)	3(23.1)	1(7.7)	-	7(53.9)
xiii. I will smell and taste the food to ensure that it is not spoiled before eating the food	11(84.6)	1(7.7)	1(7.7)	-	-
xiv. I will not buy canned food that has been dented	8(61.5)	1(7.7)	3(23.1)	-	1(7.7)
xv. Food poisoning such as stomach pain, diarrhoea and vomiting can be avoided if we eat with clean hands	10(76.9)	1(7.7)	1(7.7)	1(7.7)	-
xvi. A dirty environment does not cause food contamination	2(15.4)	3(23.1)	1(7.7)	2(15.4)	5(38.5)

Statements	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
xvii. Expiration dates on food and beverage packaging are important	8(61.5)	2(15.4)	1(7.7)	1(7.7)	1(7.7)
xviii. Food that has spoiled and smelled is not safe to eat	8(61.5)	1(7.7)	1(7.7)	1(7.7)	2(15.4)
xix. Ice cubes from uncooked water are safe to drink	1(7.7)	6(46.2)	2(15.4)	-	4(30.8)
xx. Newspapers are not safe to use as food packaging	5(38.5)	3(23.1)	4(30.8)	1(7.7)	-
xxi. Staple wire (drug stapler) on food packaging is not dangerous	1(7.7)	1(7.7)	2(15.4)	1(7.7)	8(61.5)
xxii. Food that contain hair will cause health problems if eaten	5(38.5)	2(15.4)	2(15.4)	2(15.4)	2(15.4)
xxiii. Food that has been infested with flies or cockroaches is safe to eat	3(23.1)	1(7.7)	1(7.7)	-	8(61.5)
xxiv. The hot temperature of the canteen environment can increase the rate of germ reproduction	4(30.8)	4(30.8)	4(30.8)	1(7.7)	-

Statements	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
xxv. Germs on cooking utensils can be disinfected using hot water	4(30.8)	3(23.1)	5(38.5)	-	1(7.7)
xxvi. Equipment that is not washed using dishwashing soap can result in food contamination	6(46.2)	4(30.8)	2(15.4)	-	1(7.7)
xxvii. Towels used for wiping hands can be used to wipe dishes	3(23.1)	1(7.7)	1(7.7)	1(7.7)	7(53.8)
xxviii. Raw food and cooked food should not be stored in the same container	5(38.5)	3(23.1)	2(15.4)	-	3(23.1)
xxix. The kitchen does not need to be protected from pests such as rats and lizards	2(15.4)	1(7.7)	2(15.4)	1(7.7)	7(53.8)
xxx. Repeated use of cooking oil is not good for health	3(23.1)	2(15.4)	5(38.5)	3(23.1)	-
xxxi. Chemicals such as rat poisons and insecticides can be placed near dry raw materials such as onions, rice and flour	1(7.7)	4(30.8)	1(7.7)	1(7.7)	6(46.2)

The above data (Table 4) had shown 9 food handlers or 69.3% did not have the knowledge to wash their hands by following 7 correct steps when busy serving customers. In addition, 8 food handlers or 61.6% are not aware of the need to take off watches, rings, or bracelets before preparing food. In respect of the need to use clean cooking utensils to produce clean and safe food, 10 respondents or 77% had that knowledge. Next, there were 8 respondents or 61.6% were believed that hand towels cannot be used repeatedly without washing. 11 respondents or 84.6% said they must always wash their hands after touching raw material. In addition, 12 respondents or 92.3% will smell and taste the food to ensure that it is not spoiled before eating food. 9 respondents or 69.2% did not have the awareness that staple wire (drug stapler) on food packaging was dangerous. 8 respondents or 61.6% had knowledge that hot temperature of the canteen environment can increase the rate of germ reproduction. 10 respondents or 77% were aware that equipment that is not washed using dishwashing soap can result in food contamination. Last but not least, 8 respondents or 61.6% had awareness that raw food and cooked food should not be stored in the same container.

Tables 5: Food Preparation Processes and Training of Food Handlers.

Statements	Answers	Frequency	Percent
Do you use the same cutting board for raw food and vegetables?	No	2	15.4
	Yes	11	84.6
Do you reuse the same towels for plates and food?	No	11	84.6
	Yes	2	15.4

How do you dilute/defrost the food?	Water Basin	6	46.2
	Room temperature	2	15.4
	Others	1	7.7
	Microwave	2	15.4
	Refrigerator	2	15.4
Do you know how to dilute food safely?	No	4	30.8
	Yes	9	69.2
Do you know how long it is possible to store food in the refrigerator?	No	6	46.2
	Yes	7	53.8
Have you participated in food handler training (LPM)?	No	9	69.2
	Yes	4	30.8

Based on table 5 above, the data shows that 11 food handlers or 84.6% used the same cutting board for raw food and vegetables which may risk food contamination during the food preparation process. In addition, there were 6 food handlers or 46.2% who used a water basin to defrost the raw material such as meat and chicken. 2 food handlers or 15.4% used room temperature to defrost raw materials. 2 respondents or 15.4% used microwave and refrigerator to dilute raw food. Last but not least, 9 food handlers or 69.2% out of 13 did not attend food handling training (LPM). Food handling training for canteen food handlers is crucial to have the correct knowledge in food safety and to prevent food-borne diseases in schools.

4. DISCUSSION

The students lack knowledge in correct steps for effective handwashing (Dora-Liyana et al., 2018). The data shows that only 52 or 22.6% of students out of the 230 respondents have knowledge on correct hand washing steps. Sharif, Obaidat & Al-Dalalah (2013), stated that good temperature control was crucial to keep foods fresh and food kept at the wrong temperature might be subjected to contamination. The data shows that 105 or 45.7% of students had knowledge that a warm kitchen or room temperature will increase the rate of germ reproduction. Raw and cooked food should be kept separate, for example by using a different chopping board for cutting meats and for cutting vegetables (Dora-Liyana et al., 2018). There were 169 students or 73.6% who had good knowledge on cutting fruits and raw meat using a separate cutting board.

As for the food handlers, they showed poor personal hygiene such as incorrect handwashing and lacked knowledge in the correct steps for effective handwashing (Dora-Liyana et al., 2018). There were 9 food handlers or 69.3% did not have the knowledge to wash their hands by following 7 correct steps when busy serving customers. Moreover, Dora-Liyana et al (2018) stated that food handlers lacked knowledge of equipment hygiene and reused dish towels to wipe plates. Fortunately, there were 8 respondents or 61.6% who believed that hand towels cannot be used repeatedly without washing. In terms of using clean cooking utensils to produce clean and safe food, there were 10 respondents or 77% who had this knowledge. Raw and cooked food should be kept separated (Dora-Liyana, 2018). However, there were 11 food handlers or 84.6% who used the same cutting board for raw food and vegetables. Using the same chopping board for meats and vegetables might be the cause of food contamination in the school canteen at Betong, Sarawak.

5. CONCLUSIONS

In conclusion, the students in Betong schools had satisfactory knowledge in handwashing before consuming food. The students also had good knowledge that food poisoning such as stomach pain, diarrhoea and vomiting can be prevented if they consume food with clean hands and fair knowledge that warm room temperatures would increase the rate of germ reproduction. In addition, the students had good knowledge that fruits and raw meat need to be cut using separate cutting boards.

On the other hand, data had shown that the food handlers had low awareness in regard to using the same cutting board for raw food and vegetables. It is devastating to learn, that most of the food handlers did not have the knowledge to wash their hands by following 7 correct steps when busy serving customers. The majority of the food handlers also were not aware of the need to take off watches, rings or bracelets before preparing food. Last but not least, most of the food handlers did not have the awareness that staple wire (drug stapler) on food packaging was dangerous.

Hopefully, this data will help the Ministry of Health Malaysia to improve healthcare policy and educate the students in schools to eradicate food poisoning cases. Apparently, there is a need to note that the current training does not take cultural values into consideration. Furthermore, the basic food handling practices in terms of food handlers' guidelines and routines in schools were missing. Therefore, the study will attempt to fill the gaps.

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FOOD SAFETY HEALTH EDUCATION TO FOOD HANDLERS AT RAMADAN BAZAAR IN SARAWAK

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Abstrak

Bazar Ramadan adalah acara di Malaysia yang menyajikan pelbagai hidangan seperti minuman, kuih-muih dan lauk-pauk. Semasa pandemik Covid-19, pengendali makanan di Bazar Ramadan turut terjejas dari segi ekonomi. Pada tahun 2021, pengendali makanan di bulan Ramadan dibenarkan untuk beroperasi seperti mana penjaja lain dengan mematuhi Standard Prosedur Operasi Covid-19 yang ketat. Dengan ini, dijangkakan terdapat lebih ramai kehadiran penjual makanan baru yang akan memulakan perniagaan makanan walaupun tidak mempunyai pengetahuan asas mengenai keselamatan makanan bagi menampung kehidupan di musim pandemik. Objektif kajian ini adalah untuk mempromosikan dan memberikan pendidikan kesihatan berkaitan keselamatan makanan terutama kepada pengendali makanan baru dan untuk menilai kepatuhan Akta Makanan 1983 di Bazar Ramadan dalam norma baru. Aktiviti pendidikan kesihatan berkaitan keselamatan makanan telah dijalankan di lima lokasi terpilih di Kuching, Sarawak seperti Sukma, Gita, Astana, Matang dan Semariang. Promosi kesihatan dan aktiviti pendidikan yang dijalankan lebih tertumpu kepada pematuhan di bawah Peraturan Kebersihan Makanan 2009, Akta Makanan

1983. Sebanyak 220 pengendali makanan dalam kajian ini telah diberi maklumat dan ditemuramah berkaitan keselamatan makanan. Sebilangan besar pengendali makanan di Bazar Ramadan adalah wanita (55%) dan 35% adalah pengendali makanan muda dengan usia antara 19-29 tahun. 70% pengendali makanan mempunyai pendidikan menengah dan peringkat lebih tinggi. Lebih daripada 50%, pengendali makanan di Gita, Matang dan Semariang mempunyai pengalaman perniagaan yang baik di Bazar Ramadan sebelumnya. Manakala pengendali makanan di Sukma (53%), Gita (63%) dan Semariang (63%) menunjukkan kepatuhan di bawah Peraturan Kebersihan Makanan 2009 dan lebih daripada 50% pengendali makanan di Gita dan Semariang telah mengikuti latihan yang diiktiraf serta menerima vaksin anti-kepialu. Diharapkan aktiviti seperti ini dapat meningkatkan kesedaran mengenai keselamatan makanan di kalangan pengendali makanan, terutama di Bazar Ramadan.

Kata kunci: Keselamatan makanan, Bazaar Ramadan, Pengendali makanan, Latihan pengendali makanan

Abstract

Ramadan Bazaar is a special food fiesta in Malaysia during the month of Ramadan where people sell and buy food and beverages (a variety) of from drinks, heavy meals and side dishes. During the Covid-19 pandemic, food handlers in the Ramadan Bazaar were also affected economically. In 2021, food handlers in the month of Ramadan are allowed to operate like any other hawkers by adhering to the strict Covid-19 Standard Operating Procedures (SOP Covid-19). It is expected that there will be many new food handlers who will start a food business even though they do not have the basic knowledge of food safety to survive in the pandemic season. The objective of this study to promote and deliver food safety health education especially to new food handlers and to evaluate the compliance against Food Act 1983 at the Ramadan Bazaar in new norm. Five locations in Kuching, Sarawak including Sukma, Gita, Astana, Matang and Semariang

were selected for us to conduct food safety health education activities. Health promotion and education activities carried out at each location were more focused on compliance against the Food Hygiene Regulations 2009, Food Act 1983. A total of 220 food handlers in this study were given relevant information and were interviewed. Majority of food handlers at Ramadan Bazaar were female (55%) and 35% were young food handler with age between 19-29 years old. 70% of food handlers have secondary and higher education thus are expected to have good food safety knowledge. More than 50% of food handlers in Gita, Matang and Semariang had good business experience in the previous Ramadan Bazaar. Food handlers at Ramadan Bazaar at Sukma (53%), Gita (63%) and Semariang (63%) shows good compliance against Food Hygiene Regulation 2009, more than 50% of food handlers at Gita and Semariang had attended certified training and received anti-typhoid vaccine. It is hoped that such activities can increase awareness on food safety among food handlers, especially at the Ramadan Bazaar.

Keywords: *Food safety, Ramadan Bazaar, Food handler, Food handler training*

1. INTRODUCTION

Ramadan is the ninth month of the Islamic calendar, in which Muslims fast daily. Muslims are obliged to fast from dawn to sunset every day during the month. During the month of Ramadan, most Malaysians Muslim tends to buy food from street food stalls or known as the Ramadan Bazaar for breaking fast (Ain Aizureen et al., 2017). From March 18 to March 31, 2020, the Prime Minister of Malaysia announced a 14-day nationwide Movement Control Order to curb the spread of Covid-19. The Senior Minister of Security decided Ramadan bazaars will not be allowed during the movement control order (The Star., 2020). In general, Ramadan Bazaar is highly anticipated not only among food handlers but also among visitors because of the variety of types of food sold.

In March 2021, the Malaysian National Security Council issued a statement that Ramadan Bazaars were allowed to operate throughout Malaysia during the Conditional Movement Control Order (CMCO) and Restricted Movement Control Order (RMCO) in strict compliance with Standard Operating Procedure (SOP). However, due to the increase in Covid-19 cases in most states, the Ramadan Bazaar was finally cancel at the last minute due to the safety factors of operators and visitors. The same thing happened in Sarawak, starting with the announcement of the cancellation of the Ramadan Bazaar in the administrative areas of Kuching North City Hall (DBKU) in Satok, Semarak and Sukma Ria. However, food handlers were allowed to sell food in front of houses or by the roadside like most other hawkers in accordance with the implementation of SOP Covid-19.

As a result, it is expected that there will be many new food handlers who will start a food business even though they do not have the basic knowledge of food safety to survive in the pandemic season. On the other hand, there were no basic facilities that would be provided by the local authority compared to the previous Ramadan Bazaar. Thus, the Food Safety and Food Quality Division took the initiative to

promote and deliver food safety health education especially to new food handlers and to evaluate the compliance against Food Act 1983 at the Ramadan Bazaar in the face of this new norm.

2. MATERIAL AND METHODOLOGY

2.1 Study Area

Kuching is the city with the highest Muslim population in Sarawak (Department of Statistics, Malaysia). There were five (5) locations around Kuching, Sarawak identified as the most Muslim population especially in the administrative areas of Kuching North City Hall (DBKU) and become the focus of food handlers who sell various types of food during Ramadan month. The locations included Astana, Gita, Sukma, Semariang and Matang. Activities at each location were conducted on different days during the month of Ramadan in year 2021.

2.2 Food Safety Health Education Activities

Health promotion and education activities carried out at each location were more focused on compliance with Regulation 33 Personal hygiene of food handlers, under the Food Hygiene Regulations 2009. These regulations cover aspects of food handling during preparation, packaging, carrying, storing, displaying and serving food. In addition, an important aspect to be conveyed is the need for food operators or handlers to comply with the Food Act 1983 which requires all food handlers to undergo training and have a Food Handler Training Certificate as well as obtained anti -typhoid vaccine. To avoid congestion in the bazaar, the activity was carried out as soon as the bazaar opens.

2.3 Data Collection Procedure

Data were collected through face-to-face interviews using a simple questionnaire that was adopted from previous study (Lataf et al., 2018; Jores et al., 2018) to facilitate data collection. The questionnaire was divided into two parts consisting of socio-demographic characteristic and Food Act 1983 requirements. The first part was designed to determine the food handler's socio-demographic characteristic including gender, age, education level and business experience in the Ramadan Bazaar. The second part was only on food handler training and anti-typhoid vaccine status. No personal details is required for this study such as name, identification card number or address. These data collected are related to the Ramadan Bazaar monitoring program held annually. All food handlers present during the monitoring were inspected and given information on food safety and quality. The data obtained were calculated as frequencies and percentages.

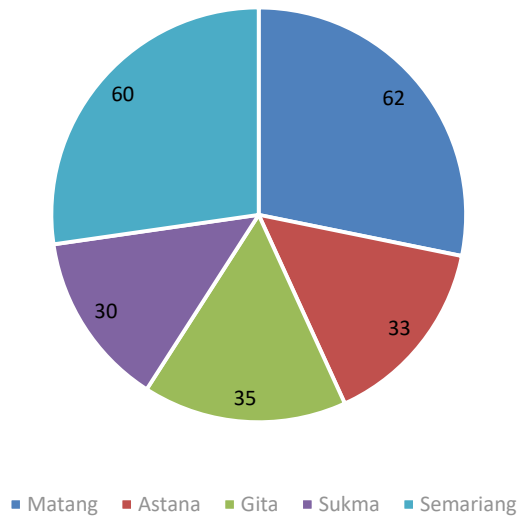
3. RESULTS AND DISCUSSIONS

3.1 Food Safety Health Education Activities

Ramadan Bazaar foods or generally known as street foods are not only appreciated for their unique flavors, convenience and the role which they play in the cultural and social heritage of societies, they have also become important and essential for maintaining the nutritional status of the populations (FAO, 1997). During the previous Ramadans, the local authority for each state designated and licensed the locations of Ramadan Bazaars and each location consisted of 50 to 200 food stalls depending on the demand. The designated stall is regularly an empty space with basic infrastructures and facilities such as water supply, electricity, washing and drainage facilities. For the first time, the Ramadan Bazaar took place on a new norm without facilities provided by local authorities and had to adhere to strict SOP

COVID-19. Five (5) selected locations in Kuching have carried out food safety health education activities. Figure 1 below showed the numbers of food handlers at Ramadan Bazaar in different locations.

Figure 1: Numbers of food handlers at Ramadan Bazaar in Kuching, Sarawak.



A food handler is defined as a person engaged in the food business or someone related to it professionally, such as an inspector who, in his or her routine work, comes into direct contact with food in its production, processing, packaging or distribution process (FAO, 2017). A total of 220 food handlers in this study were given relevant information especially about Regulation 33 Personal hygiene of food handlers, under the Food Hygiene Regulations 2009. This Regulation 33 is important in order to create self-cleanliness awareness among food handlers. Under this regulation, the food handlers are required to wash their hands before touching food, after using toilet, after handling raw ingredients or after touching contaminated surface. Food handlers also need to be neat and maintain tidy hair with the head cover. Nails must be short and clean and no accessories such

as rings, watches or bracelets are worn while handling food. If the food handlers do not adhere to these rules and regulations, they can be fined not more than Ringgit Malaysia ten thousand (RM 10,000) or jailed not more than two years (Food Act 1983).

The unhygienic conditions of food handler become a major source for the contamination of street foods with pathogenic bacteria loads. Poor food preparation handling and inadequate washing of hands and utensils may contribute to the presence of varied bacteria like Coliform, *Shigella* spp., *Salmonella* spp. in ready-to-eat foods and *Bacillus* spp, *Proteus* spp, *Staphylococcus aureus*, *Pseudomonas* spp., *Shigella* spp., *Enterobacter* spp. and *Streptococcus* spp. in vegetable salad (Akusu et al., 2016). Another study by Ain Auzureen et al. (2017), found non-compliances for *Salmonella* in cooked beef and chicken sold in Kelantan during Ramadan month. During the visit, officer also reprimanded the food handlers on issues the use of aprons and proper clothing, prohibition of wearing accessories during food preparation, nails must be short and hair must be neat or covered.

A study carried out at Chow Kit, Kuala Lumpur, revealed that the visitors were fair-minded in dealing with food handlers with personal hygiene issues; e.g. they were not using a spread, did not cover their hair, have long fingernails, failed to use hand glove while handling food, and handling money while serving food (Arifin et al., 2019). Apart from that, food handlers were also advised about the requirement under Food Act 1983 for them to undergo food handler training and procure the anti-typhoid vaccine. In Sarawak, about 25 accredited schools actively provide training to food handlers. With training, it is hoped that food handlers will be able to implement good hygiene practices that will ultimately reduce the rate of food poisoning.

3.2 Socio-demographic Characteristics

In this study, food handlers at Ramadan Bazaar were asked only four (4) questions including gender, age, education level and business experience at the Ramadan Bazaar in the socio-demographic characteristic part. Table 1 below showed the socio-demographic characteristics of food handlers at different location of Ramadan Bazaar in Kuching, Sarawak.

Table 1: Socio-demographic characteristics of food handlers at different location of Ramadan Bazaar in Kuching, Sarawak.

Items	Sukma (n=30)	Astana (n=33)	Gita (n=35)	Matang (n=62)	Semariang (n=60)
Gender					
Male	12 (40)*	17 (52)	16 (46)	29 (47)	25 (42)
Female	18 (60)	16 (48)	19 (54)	33 (53)	35 (58)
Age					
19-29	10 (33)	20 (61)	18 (51)	34 (55)	25 (42)
30-39	10 (33)	10 (30)	4 (11)	14 (23)	25 (25)
40-49	7 (24)	3 (10)	8 (23)	8 (13)	12 (20)
>50	3 (10)	0 (0)	5 (14)	6 (10)	8 (13)
Education Level					
Primary school	5 (17)	5 (15)	6 (17)	1 (2)	3 (5)
Secondary school	21 (70)	16 (48)	20 (57)	46 (74)	48 (80)
Certificate/Diploma/ Degree	4 (13)	12 (36)	9 (26)	15 (24)	9 (15)
Business experience at the Ramadan Bazaar					
Yes	12 (40)	11 (33)	18 (51)	42 (68)	32 (53)
No	18 (60)	22 (67)	17 (49)	20 (32)	28 (47)

Note. number of food handlers (%)

From Table 1, there were more female (55%) than male (45%) food handlers for all locations in the Ramadan Bazaar. These results are in line with Odundo et al (2018), Da Silva et al (2014) and Jores et al (2018) who reported women's dominance in street food sales in Kenya, Brazil and Malaysia respectively. Odundo et al (2018), reported 60% of the entire population of 100 food handlers are female because of the responsibilities imposed on them to provide food for their households. However, Jores (2018) reported that although the majority of food handlers were women, there was no significant difference in food safety and hygiene practices between male and female food handlers in Padawan, Sarawak. Of the full 220, a third pair of food handlers (35%) were between 19-29 years old. This category consists of a relatively young and economically energetic workforce who are also prepared to tackle the difficult tasks involved in the sale of street food (Adama, 2020).

More than 70% of food handlers at each location had secondary education and higher followed by primary education. Similar to the study by Ma et al. (2019), who reported that 68% street food handler in Handan, China were either illiterate or having attained primary or middle school education. Mwove et al. (2020) also reported that almost 50% of the street food handler had obtained secondary school education or having received college or university training and the remaining had not either completed primary school or attained any formal education in Kiambu City, Kenya. Generally, higher levels of education show higher food safety knowledge (Ma et al., 2019) thus improving their attitudes towards food safety and hygiene (WHO, 1996). Food handlers at Gita (51%), Matang (68%) and Semariang (53%) had more business experience in Ramadan Bazaar compared to food handler at Sukma (40%) and Astana (33%). This show that there are a large number of food handlers in Sukma and Astana who are new food handler in the pandemic season. Three other locations also showed that almost 40% of food handlers have no experience of doing business at Ramadan Bazaars. Therefore, this

health education activity is very appropriate to the current situation in providing awareness and information especially to new food handlers.

3.3 Food Act 1983 Requirements

Regulation 30 of Food Hygiene Regulation 2009, Food Act 1983 required all food handlers including street food handlers to be trained and obtain a Certification of Food Handlers Training. If food handlers fail to comply, they can be fined up to RM 10,000 and jailed for not more than two years if convicted. Ministry of Health has also established the Food Handlers' Training Programme since 1996 to increase the knowledge on food hygiene. The training programme is conducted by private training institutions accredited by the Food Safety and Quality Division. Until June 2020, a total of 354 food handler training schools have been accredited. In Sarawak, about 25 accredited schools actively provide training to food handlers.

Table 2: Compliance of Food Act 1983 among food handlers at different location of Ramadan Bazaar in Kuching, Sarawak.

Items	Sukma Astana (n=30)	Gita (n=33)	Matang (n=62)	Semariang (n=60)
Food Handler Training				
Yes	16 (53)*	11 (33)	25 (63)	21 (34)
No	14 (47)	22 (67)	13 (3)	41 (66)
Anti-typhoid vaccine				
Yes	13 (43)	9 (27)	21 (60)	36 (58)
No	17 (57)	24 (73)	14 (40)	26 (42)

Note. number of food handlers (%)

From Table 2 above, food handlers at Ramadan Bazaar at Sukma (53%), Gita (63%) and Semariang (63%) shows good compliance against Regulation 30 of Food Hygiene Regulation 2009 with more than 50% of the food handlers having attended certified training. However, more than 60% of food handlers at Astana and Matang never attended any food safety course formally. Food Handler Training Programme in Malaysia is a course regarding the basics of food hygiene and safety. Attending this course will expose food handlers to the importance of time-temperature control, personal hygiene, safe food handling and the causes of food borne illness.

More than 50% of food handlers at Gita (60%), Matang (58%) and Semariang (58%) already received the anti-typhoid vaccine. Unfortunately, 70% of food handlers at Astana have yet to receive anti - typhoid vaccination. Typhoid fever is a disease caused by bacteria called *Salmonella typhi* and the symptoms of infection are fever with body temperature increasing to 39°C to 40°C, headache, loss of appetite and stomach ache. Typhoid fever can easily transmit through the fecal-oral route after the ingestion of contaminated food and water (Neupane et al., 2021). Moreover, all types of foods can be vehicle of contamination of *Salmonella* (New et al., 2017). This outbreak had caused the mortality rate to hit 0.02 per 100,000 population in 2019 (Malaysia Health Facts, 2020).

4. CONCLUSIONS

The main purpose of this study was to promote and deliver food safety health education especially to new food handlers and to evaluate the compliance against Food Act 1983 at the Ramadan Bazaar in the face of this new norm. To our knowledge, this is the first study to evaluate and report these important aspects of Ramadan Bazaar in Sarawak. The lack of training for most food handler especially at Ramadan Bazaar can lead to their poor hygienic behaviour and knowledge which in turn contributes to the occurrence of food poisoning. Health education and continuous monitoring on food safety is expected to

increase awareness and compliance with established laws in the future. Further study on food safety knowledge, attitude and practice is required, taking into account the lack of training and compliance in this study.

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6. DECLARATION

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**PENGARUH INFOGRAFIK KESIHATAN MELALUI FACEBOOK
JABATAN KESIHATAN NEGERI PAHANG TERHADAP LITERASI
KESIHATAN MASYARAKAT BERKAITAN COVID-19**

(The Influence of Health Infographic Through Pahang State Health Department's Facebook on Community Health Literacy Related to COVID-19)

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Abstrak

COVID-19 kini telah menjadi wabak serius yang menyerang banyak negara di seluruh dunia, termasuk negara Malaysia. Pelbagai platform media sosial telah digunakan sebagai medium penyebaran maklumat kesihatan yang tepat dan pantas. Objektif kajian ini bertujuan untuk mengenalpasti elemen infografik kesihatan yang dapat menarik minat pengikut halaman Facebook Jabatan Kesihatan Negeri Pahang. Kajian ini juga mengkaji hubungan antara infografik kesihatan dengan tahap literasi kesihatan. Selain itu, penilaian terhadap mesej dan amalan, serta hubungan antara literasi kesihatan dengan faktor demografi responden juga menjadi fokus kajian. Kajian ini menggunakan kaedah Keratan Rentas melibatkan 420 orang responden yang merupakan pengikut Facebook Jabatan Kesihatan Negeri Pahang bermula Julai 2020 sehingga Mei 2021. Pengumpulan data menggunakan borang soal selidik secara atas talian (google form). Terdapat empat (4) bahagian dalam instrumen kajian yang dibina iaitu (i) Demografi, (ii) Literasi Kesihatan, (iii) Elemen Infografik Kesihatan, (iv) Penilaian dengan menggunakan Skala Likert dan nilai Cronbach Alpha adalah $r=0.97$. Data telah dianalisa secara deskriptif dengan menggunakan SPSS 22.0 dan untuk analisa korelasi, Inferensi Korelasi Pearson

telah digunakan. Dapatan kajian menunjukkan tahap literasi kesihatan pengikut Facebook Jabatan Kesihatan Negeri Pahang adalah pada tahap interpretasi tinggi (min 3.65) diikuti infografik kesihatan yang dipaparkan (min 3.51). Terdapat hubungan yang sederhana bagi dua pembolehubah iaitu tahap literasi kesihatan dan infografik kesihatan yang dipaparkan ($r=0.448$ dan $p<0.05$) dan infografik kesihatan yang dipaparkan dan faktor penilaian serta amalan yang dilakukan dalam kehidupan ($r=0.530$ dan $p<0.05$). Manakala terdapat hubungan yang sangat lemah antara tahap literasi kesihatan dengan faktor pekerjaan ($r=-0.121$, $p<0.05$). Berdasarkan kajian ini, infografik kesihatan yang dipaparkan di halaman Facebook Jabatan Kesihatan Negeri Pahang mempunyai elemen infografik yang baik dan pengikut halaman Facebook ini aktif mendapatkan maklumat kesihatan tentang COVID-19 di halaman Facebook tersebut. Selain itu, infografik yang mempunyai elemen yang baik akan memberi kesan ke atas literasi kesihatan dan amalan pengikut di media sosial.

Kata kunci: literasi kesihatan, media sosial, Facebook, infografik, infografik kesihatan, COVID-19

Abstract

COVID-19 has now become a serious epidemic that is affecting many countries around the world, including Malaysia. Social media platforms have been used as a medium for accurate and fast dissemination of health information. The objectives of the study were to identify the elements of health infographics that attract followers of the Pahang State Health Department's Facebook page, examine the relationship between health infographics with health literacy levels as well as message evaluation and practice, as well as the relationship between health literacy and demographic factors of study respondents. A cross-sectional study among 420 respondents from Pahang State Health Department's Facebook followers was conducted between July 2020 until May 2020. Data was collected using an online questionnaire (google form). There were four (4) sections in the

study instrument consisting of (i) demographic, (ii) Health Literacy, (iii) Infographic Element, (iv) Evaluation and the answer options were in form of Likert Scale and the Cronbach's Alpha value ($r=0.97$). Data were analysed descriptively using SPSS 22.0 software, and Pearson Correlation Inference were used for correlation. The findings show the level of health literacy of the followers of the Pahang State Health Department's Facebook was at a high level of interpretation (mean 3.65) followed by the health infographic displayed (mean 3.51). There was a moderate relationship for the two variables namely health literacy level and health infographic displayed ($r=0.448$ and $p<0.05$) and health infographic displayed and message evaluation factors as well as practices performed in life ($r=0.530$ and $p<0.05$). In contrast, there was a very weak relationship between health literacy levels and occupational factors with ($r=0.121$, $p<0.05$). This study shows that the health infographic displayed on Facebook page of Pahang State Health Department contained good infographic element and the followers are actively seeking health information about COVID-19. In addition, infographics that have good elements will give an impact on health literacy and practices among followers on social media.

Keywords: *health literacy, social media, Facebook, infographics, health infographics, COVID-19*

1. PENGENALAN

Penularan pandemik COVID-19 memberi impak dahsyat kepada setiap lapisan masyarakat di seluruh dunia, baik daripada aspek kesihatan, ekonomi, sosial dan sebagainya. *Coronavirus* merupakan sejenis virus yang boleh menyebabkan penyakit kepada haiwan atau manusia (WHO, 2020). Beberapa jenis coronavirus boleh menyebabkan jangkitan saluran pernafasan kepada manusia seperti selsema sehinggalah kepada penyakit yang lebih parah seperti *Middle East Respiratory Syndrome* (MERS) dan *Severe Acute Respiratory Syndrome* (SARS). *Coronavirus* terbaharu ditemui boleh menyebabkan penyakit *coronavirus* COVID-19. Virus ini telah mencetuskan fenomena wabak pertama COVID-19 bermula di Wuhan, China pada Disember 2019. COVID-19 kini telah menjadi wabak serius yang menyerang banyak negara di seluruh dunia, termasuk negara Malaysia.

Pertubuhan Kesihatan Sedunia (WHO) pada Julai 2021, melaporkan jumlah kes COVID-19 dunia telah mencapai 187.5 juta kes. Jumlah kes paling tinggi pada masa kini adalah negara Amerika Syarikat iaitu 33.5 juta kes, diikuti negara India 30.9 juta kes, dan negara Brazil 19.1 juta kes. Kadar kesembuhan dunia pada masa kini menurun kepada 61.7% atau 11.3 juta kes berbanding sebelumnya 61.8% atau 11.1 juta (Pertubuhan Kesihatan Sedunia, 2021).

Sehingga 14 Julai 2021, Malaysia juga menunjukkan kenaikan kes positif yang mendadak iaitu di negeri Selangor 300,974 kes, Wilayah Persekutuan Kuala Lumpur 92,837 kes dan negeri Johor 76,037 kes. Negeri Pahang mencatatkan kes positif sebanyak 17,183 (Crisis Preparedness & Response Centre, CPRC), Kementerian Kesihatan Malaysia (KKM) 2021.

Masyarakat Malaysia mendapat maklumat berkaitan COVID-19 melalui penyebaran maklumat secara langsung dalam media konvensional dan media baharu. Selain daripada penyampaian maklumat melalui televisyen dan radio, laman web dan media sosial

juga menjadi salah satu sumber penyebaran maklumat yang terkini, pantas dan mudah dicapai oleh masyarakat. Pelbagai maklumat sama ada daripada segi pengumuman, pekeliling perkhidmatan, kenyataan undang-undang, penutupan operasi dan jalan-jalan perlu disalurkan kepada masyarakat agar mudah difahami dan dipatuhi. Penyampaian mesej melalui penerbitan bahan infografik merupakan salah satu sumber yang diadaptasi oleh pihak kerajaan dan swasta dalam meningkatkan kesedaran mengenai sesuatu isu atau permasalahan kepada masyarakat secara umum terutamanya semasa pandemik COVID-19 melanda negara. Selain daripada memastikan bahan berita yang disampaikan adalah sahih, infografik juga akan memudahkan masyarakat memahami mesej yang hendak disampaikan dengan mudah dan berkesan. Infografik atau maklumat grafik adalah bertujuan untuk menyampaikan mesej utama dengan cara yang lebih menarik berbanding dengan maklumat secara verbal atau tulisan perkataan (Azhari M. H., (2020).

Jabatan Kesihatan Negeri Pahang menggunakan kaedah infografik sebagai salah satu kaedah dalam menyampaikan mesej pencegahan COVID-19, bagi memberi tarikan kepada pembaca termasuk menarik perhatian dan menyampaikan mesej dengan berkesan. Pereka infografik memainkan peranan penting dalam memastikan mesej yang divisualkan memberi impak positif kepada pembaca. Jabatan ini memastikan infografik yang dihasilkan memberi makna dan pemahaman yang tepat dengan mesej yang hendak disampaikan.

Penggunaan bahan infografik semakin mendapat perhatian dalam masyarakat pada setiap peringkat terutamanya di media sosial seperti Twitter, Facebook, Instagram, blog, laman web, Whatsapp, Telegram dan sebagainya (Azhari M. H., (2020). Penggunaan infografik dilihat semakin diminati berpunca daripada ciri-ciri persembahan teksnya yang menarik, ringkas dan mudah dibaca dan sifatnya yang informatif (bermaklumat) dan *persuasive* (memujuk) (Piotti & Murphy, 2019). Elemen informasi dan pujukan diterapkan dalam infografik agar dapat memberi keyakinan kepada pembaca

dan menyedarkan mereka untuk bertindak melakukan perbuatan baik seperti perubahan sikap positif dalam diri, sikap membantu orang lain dan lain-lain.

Platform media sosial merupakan medium yang paling pantas dalam menggembelng kesedaran kesihatan awam. Media sosial digunakan secara meluas dalam menyebarkan maklumat kesihatan yang jelas dan tepat. Lebih daripada 3.5 bilion orang pada masa kini menggunakan rangkaian media sosial seperti *WeChat*, *Facebook*, *WhatsApp*, *Google*, *Instagram*, *YouTube*, dan *LinkedIn*. Pada suku pertama tahun 2020, lebih daripada 2.6 bilion pengguna aktif menggunakan *Facebook* dan sekaligus menjadikan *Facebook* sebagai rangkaian sosial terbesar di seluruh dunia (J. Clement, 2020). Di Malaysia, sehingga Januari 2020, dilaporkan sebanyak 25,520,000 menjadi pengguna *Facebook* (*Internet World Stats*, 2020).

Masyarakat perlu mendapat maklumat yang tepat dan betul berkaitan tindakan yang perlu mereka ambil dalam memutuskan rantaian COVID-19. Agensi yang berkaitan juga perlu menyalurkan maklumat dengan cepat, tepat dan boleh difahami oleh masyarakat. Penyampaian maklumat tersebut hendaklah menjangkaui populasi secara menyeluruh. Wabak COVID-19 yang mula melanda pada Disember 2019 menyebabkan masyarakat di kebanyakan negara bergantung kepada media sosial untuk mendapatkan informasi mengenai virus tersebut (Ahmad & Murad, 2020). Dua (2) aspek yang menjadi tumpuan semasa pandemik COVID-19 adalah kepentingan literasi kesihatan untuk pencegahan penyakit dan persediaan individu untuk menghadapi masalah kehidupan mereka kesan COVID-19 (Paakkari & Okan, 2020). Hasil daripada tahap literasi kesihatan yang tinggi akan membawa kepada faedah peribadi, seperti pilihan gaya hidup yang lebih sihat dan penggunaan perkhidmatan kesihatan yang lebih efektif. Tahap literasi kesihatan yang baik akan memungkinkan masyarakat memahami mesej kesihatan yang disampaikan dan menerapkan mesej tersebut kepada tindakan serta amalan yang mereka perlu lakukan dalam menangani wabak penyakit

COVID-19. Seterusnya, kemampuan untuk menggunakan maklumat dengan berkesan, boleh membawa kepada faedah sosial, seperti membolehkan masyarakat mengambil tindakan yang berkesan untuk kesihatan mereka (Nutbeam, 2000).

1.1 Ulasan kajian lepas

Konsep literasi kesihatan adalah kemahiran dan kecekapan yang membolehkan individu mendapatkan dan mentafsirkan maklumat kesihatan serta menggunakan pengetahuan tersebut untuk bertindak (Levin-Zamir & Bertschi, 2018). Masyarakat berupaya untuk cari, faham dan guna maklumat dan perkhidmatan kesihatan yang diperlukan demi membuat keputusan kesihatan setiap hari. Faedah literasi kesihatan kepada masyarakat adalah; (i) faham risiko kesihatan dan amalkan gaya hidup sihat, (ii) faham maklumat kesihatan dan arahan perubatan dengan mudah, (iii) menilai risiko dan manfaat rawatan dengan bijak, dan (iv) mengurus temujanji perkhidmatan kesihatan dengan teratur. (Tinjauan Kesihatan dan Morbiditi Kebangsaan, 2019). Manakala Sorensen et al. (2015), mentakrifkan literasi kesihatan dalam konteks kemahiran individu dalam 3 domain yang berbeza iaitu penjagaan kesihatan, pencegahan penyakit dan promosi kesihatan. Literasi kesihatan dilihat dalam konteks sebagai pengetahuan, motivasi dan kompetensi individu untuk mengakses, memahami, menilai dan menggunakan maklumat kesihatan untuk membuat penilaian dan keputusan dalam kehidupan harian. Hal ini menunjukkan literasi kesihatan yang diketengahkan bukan sahaja menekankan kepada kesihatan individu tetapi juga terhadap kesihatan masyarakat.

Media sosial adalah teknologi yang digunakan secara meluas dalam menyebarkan maklumat kesihatan yang jelas dan tepat. Media sosial merangkumi laman web dan alat dalam talian lain (disebut sebagai rangkaian sosial) yang membolehkan orang dan organisasi mendapatkan, mencipta, dan berkongsi kandungan melalui interaksi bersama dengan orang lain mengenai topik di mana

mereka mempunyai kepentingan bersama. Media sosial berupaya menggerakkan orang-orang di sekeliling dengan pantas mengenai isu-isu berkaitan dengan mereka, dan membantu dalam penyampaian maklumat (Robert et al, 2017). Maklumat berkaitan kesihatan yang paling biasa dicari pengguna adalah mengenai 'gejala dan penyakit' (91.4%), diikuti dengan 'tips penjagaan kesihatan' (89.8%) dan 'kaedah rawatan' (83.5%). Sebahagian daripadanya pula mencari 'maklumat ubat' (73.7%), dan 'tempat untuk mendapatkan rawatan' (63.8%) (Suruhanjaya Komunikasi & Multimedia Malaysia, 2017). Literasi umum harus ditingkatkan untuk memastikan kemampuan membaca dan memahami bahan kesihatan bagi mencapai kemahiran literasi kesihatan (EuroHealthNet, 2005).

Penggunaan *Facebook* dan rangkaian media sosial memberikan kelebihan yang tinggi berbanding dengan saluran komunikasi yang lain. Ciri-ciri interaktif media sosial dapat menarik perhatian lebih banyak pengguna sehingga dapat meningkatkan kesedaran terhadap sesebuah organisasi dan literasi kesihatan (Tuten, 2008). Sehubungan itu, platform *Facebook* Jabatan Kesihatan Negeri Pahang memainkan peranan yang penting dalam menyalurkan mesej kesihatan kepada pengikut.

Perkataan infografik adalah ungkapan asal daripada dua perkataan bahasa Inggeris iaitu information (maklumat) dan graphic (grafik). Menurut Kamus English Oxford, gabungan perkataan infografik membawa maksud gambaran persembahan tentang informasi atau data. Melalui infografik, maklumat atau data yang kompleks dapat dipaparkan melalui satu bentuk visual yang menggabungkan beberapa unsur seperti bentuk, simbol, grafik, gambar, ilustrasi dan teks (Ozdamli & Omdal, 2018). Maklumat yang dipaparkan juga dapat dipersembahkan kepada pembaca dengan cepat agar difahami dengan mudah. Manakala pada akhir abad ke-20, penggunaan bahan infografik mula mendapat tempat dalam kalangan pengguna komputer. Kemunculan perisian Microsoft Office pada tahun 1988 memudahkan penghasilan pelbagai jenis rekaan grafik seperti grafik yang bergerak, grafik yang interaktif dan

sebagainya (Yuvaraj, 2017). Setelah memasuki awal abad ke-21, penerbitan infografik yang pada awalnya berbentuk cetakan telah berubah ke dalam bentuk digital dan terus mengalami perubahan sehingga ke platform berbentuk dalam talian sehingga ke hari ini.

Secara umumnya infografik adalah gambaran visual maklumat yang digunakan untuk menyampaikan data atau pengetahuan yang kompleks dengan cepat. Infografik biasanya mengandungi ilustrasi, penjelasan bertulis pendek, dan visualisasi data seperti carta atau graf (Qualey, 2014). Infografik berjaya sekiranya dapat menarik perhatian orang dan mereka dapat memahami maklumat yang disampaikan. Lebih baik lagi jika mesej itu dapat mendorong mereka untuk mengubah tingkah laku, dan /atau berkongsi mesej dengan rangkaian mereka. Infografik dapat menghubungkan antara orang awam dengan profesional kesihatan, dan mereka dapat menjelaskan 'take-home messages' yang penting dan memberi petunjuk untuk mempromosikan tingkah laku kesihatan (Martin, 2008). Infografik kesihatan direka untuk merangsang tindak balas daripada pembaca dengan memfokus kepada perhatian, pemahaman, daya ingatan dan kepatuhan' (Houts et al, 2006). Infografik telah menjadi pendekatan visual yang popular dalam menyampaikan mesej yang abstrak, kompleks, dan padat (Lamb et al, 2014; Smiciklas, 2012; Vanichvasin, 2013). Penggunaan infografik dapat membantu khalayak meningkatkan kesedaran tentang kesihatan kerana visual ini selain memberi maklumat dalam bentuk teks, juga memaparkan visual yang mengukuhkan kandungan teks (Sharudin et al, 2020).

2. METODOLOGI DAN REKA BENTUK KAJIAN

2.1 Reka Bentuk Kajian

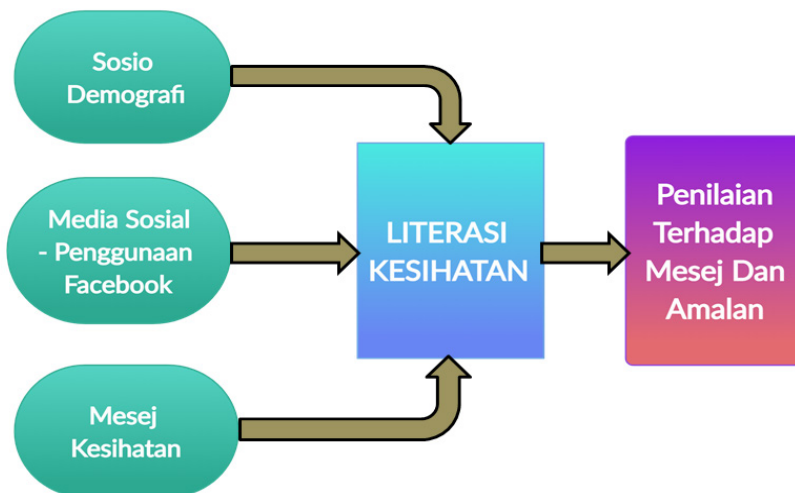
Reka bentuk kajian ini berbentuk kuantitatif menggunakan kaedah Keratan Rentas yang melibatkan seramai 380 orang pengikut Facebook Jabatan Kesihatan Negeri Pahang bermula Julai 2020 sehingga Mei 2021. Pengumpulan data kajian dibuat secara atas

talian dengan menggunakan *google form* dan dihebahkan melalui *Facebook Messenger*. Hasil kajian ini membantu penyelidik untuk mengenalpasti pengaruh infografik kesihatan melalui *Facebook* Jabatan Kesihatan Negeri Pahang terhadap tahap literasi kesihatan masyarakat berkaitan COVID-19.

2.2 Kerangka konsep

Terdapat beberapa elemen yang akan dikaji dalam kajian ini iaitu: (i) elemen infografik kesihatan, (ii) hubungan antara literasi kesihatan dengan faktor demografi, dan (iii) hubungan antara infografik kesihatan dengan tahap literasi kesihatan pengikut *Facebook* Jabatan Kesihatan Negeri Pahang, hubungan antara infografik kesihatan dengan penilaian terhadap mesej dan amalan pengikut halaman *Facebook* Jabatan Kesihatan Negeri Pahang.

Rajah 1: Kerangka konsep pengaruh infografik kesihatan melalui Facebook Jabatan Kesihatan Negeri Pahang terhadap literasi kesihatan masyarakat berkaitan COVID-19.



Populasi kajian ini meliputi seramai 35, 631 orang pengikut *Facebook* Jabatan Kesihatan Negeri Pahang sehingga 27 Julai 2020. Kajian ini melibatkan seramai 420 orang pengikut *Facebook* Jabatan Kesihatan Negeri Pahang dan dipilih menggunakan kaedah rawak mudah (dalam kategori *top fan* pengikut *Facebook* Jabatan Kesihatan Negeri Pahang). Saiz sampel kajian ini dipilih menggunakan kaedah Krejcie & Morgan, (1970).

Kajian ini menggunakan borang soal selidik secara atas talian menggunakan *google form* sebagai alat untuk mengumpul data daripada responden. Pembentukan borang soal selidik diadaptasi dan dilakukan pengubahsuaian berdasarkan kajian Suka, M., et al (2013). Memandangkan berlaku pengubahsuaian pada soalan, maka pra uji dijalankan bagi ujian kebolehpercayaan untuk menilai tahap Cronbach Alpha. Borang soal selidik ini menggunakan skala pengukuran Likert iaitu Sangat Tidak Setuju, Tidak Setuju, Setuju, dan Sangat Setuju (Riduwan. (2008). Soalan terbahagi kepada empat (4) bahagian iaitu Bahagian A (demografi dan latar belakang responden), Bahagian B (pencarian maklumat kesihatan), Bahagian C (paparan maklumat kesihatan), dan Bahagian D (menilai dan menggunakan mesej kesihatan). Soal selidik ini mempunyai kebolehpercayaan yang tinggi, iaitu pada nilai koefisien (*r*) Cronbach Alpha $r=0.97$.

Jadual 1: Skala Likert

Skala	Pernyataan	Skor
1	Sangat Tidak Setuju	1
2	Tidak Setuju	2
3	Setuju	3
4	Sangat Setuju	4

Nota. sumber daripada Riduwan (2008). Skala Pengukuran Variabel-Variabel Penelitian: Bandung.

Pengiraan indeks adalah dengan menggunakan pengiraan nilai Min. Min adalah Min skor setiap individu. Jadual penentuan tahap min adalah seperti di bawah:

Jadual 2: Penentuan Tahap Min

Skor Min	Interpretasi
1.50 – 1.00	Kurang Kaitan
2.50 – 1.51	Rendah
3.50 – 2.51	Sederhana
4.00 – 3.51	Tinggi

Nota. sumber daripada Riduwan (2008). Skala Pengukuran Variabel-Variabel Penelitian: Bandung.

3. DAPATAN KAJIAN

Bahagian A: Demografi

Jadual 3: Demografi Responden (n = 420)

Perkara		Bilangan (n) dan Peratus (%)
Umur	18 – 24 tahun	76 (18.1)
	25 – 34 tahun	82 (19.5)
	35 – 44 tahun	142 (33.8)
	45 – 54 tahun	94 (22.4)
	55 - 64 tahun	37 (1.67)
	65 tahun ke atas	4 (1.0)
Jantina	Lelaki	140 (33.3)
	Perempuan	280 (66.7)
Bangsa	Melayu	383 (91.2)
	Cina	15 (3.6)
	India	15 (3.6)
	Lain-lain	7 (1.7)

Perkara		Bilangan (n) dan Peratus (%)
Tahap Pendidikan	Ijazah / Sarjana / PHD	260 (61.9)
	Diploma / STPM / STAM	99 (23.6)
	SPM / SVM	53 (12.6)
	PT3 / PMR / SRP	5 (1.2)
	UPSR	1 (0.2)
	Tidak Berkenaan	2 (0.5)
Pekerjaan	Penjawat Awam	293 (69.8)
	Swasta / Bekerja sendiri	31 (7.4)
	Pesara	6 (1.4)
	Suri Rumah	14 (3.3)
	Pelajar	72 (17.1)
	Tidak Bekerja	4 (1.0)
Pendapatan	Tiada pendapatan	84 (20.0)
	< RM1,000	9 (2.1)
	RM1,001 – RM3,000	54 (12.9)
	RM3,001 – RM5,000	115 (27.4)
	RM5,001 dan ke atas	158 (37.6)
Negeri	Kedah	2 (0.5)
	P. Pinang	2 (0.5)
	Perak	6 (1.4)
	Selangor	8 (1.9)
	WP Kuala Lumpur	4 (1.0)
	WP Putrajaya	3 (0.7)
	Melaka	2 (0.5)
	Johor	6 (1.4)
	Pahang	351 (83.6)
	Terengganu	23 (5.5)
	Kelantan	11 (2.6)
	Sarawak	1 (0.2)
	Sabah	1 (0.2)

Maklumat demografi responden menunjukkan bahawa kumpulan umur 35 hingga 44 tahun (33.8%) paling ramai menjawab soalan tinjauan, begitu juga responden perempuan (66.7%), berbangsa Melayu (91.2%), mempunyai tahap pendidikan Ijazah / Sarjana / PHD (61.9%), bekerja sebagai penjawat awam (69.8%), berpendapatan RM5,001 dan ke atas (37.6%), dan penduduk di negeri Pahang (83.6%).

**Bahagian B: Literasi Kesihatan / Pencarian Maklumat di Facebook Jabatan Kesihatan Negeri Pahang.
Jadual 4: Literasi Kesihatan / Pencarian maklumat**

Bil	Item	Sangat Tidak Setuju	Tidak Setuju	Setuju	Sangat Setuju	Min	Tahap
1.	Mesej berkaitan COVID-19 mudah diakses melalui FB JKNP	-	2(0.5)	198(47.1)	220 (52.4)	3.52	Tinggi
2.	Mesej kesihatan tentang COVID-19 mestilah daripada sumber yang dipercayai	-	-	83 (19.8)	337 (80.2)	3.80	Tinggi
3.	Mesej COVID-19 menjadi keperluan bagi masyarakat	-	-	91 (21.7)	329 (78.3)	3.78	Tinggi
4.	Mesej tentang COVID-19 perlu untuk mencegah penyakit COVID-19	-	-	82 (19.5)	338 (80.5)	3.80	Tinggi
5.	FB JKNP menjadi sumber untuk mendapatkan mesej COVID-19	-	8(1.9)	207 (49.3)	205 (48.8)	3.47	Sederhana
6.	FB JKNP memaparkan mesej terkini COVID-19	-	2(0.5)	186 (44.3)	232 (55.2)	3.55	Tinggi
7.	Mesej kesihatan yang diperolehi relevan dengan isu semasa	-	-	162 (38.6)	258 (61.4)	3.61	Tinggi
Jumlah Keseluruhan						3.65	Tinggi

Jadual 4 menunjukkan jadual skor min bagi mengetahui tahap literasi kesihatan pengikut *Facebook* Jabatan Kesihatan Negeri Pahang. Terdapat dua tahap yang berbeza setelah keputusan analisis dilakukan iaitu pada tahap Sederhana Tinggi dan Tinggi. Pada tahap Tinggi, item mesej kesihatan tentang COVID-19 mestilah daripada sumber yang dipercayai dan mesej tentang COVID-19 perlu untuk mencegah penyakit COVID-19 dengan nilai min 3.80 bagi kedua-dua item.

Manakala interpretasi min paling banyak iaitu Tinggi, item yang terlibat ialah mesej berkaitan COVID-19 mudah diakses melalui *Facebook* Jabatan Kesihatan Negeri Pahang (3.52), mesej COVID-19 menjadi keperluan bagi masyarakat (3.78), *Facebook* Jabatan Kesihatan Negeri Pahang memaparkan mesej terkini COVID-19 (3.55), dan mesej kesihatan yang diperolehi relevan dengan isu semasa (3.61). Hanya terdapat 1 item Sederhana Tinggi iaitu *Facebook* Jabatan Kesihatan Negeri Pahang menjadi sumber untuk mendapatkan mesej COVID-19 dengan nilai min 3.47. Secara keseluruhannya, item bagi tahap literasi kesihatan pengikut *Facebook* Jabatan Kesihatan Negeri Pahang adalah pada tahap interpretasi Tinggi dengan skor min 3.65.

**Bahagian C: Paparan Maklumat Kesihatan di Facebook Jabatan Kesihatan Negeri Pahang
Jadual 5: Elemen Infografik**

Bil	Item	Sangat Tidak Setuju	Tidak Setuju	Setuju	Sangat Setuju	Min	Tahap
1.	Infografik yang dihasilkan menarik		3(0.7)	182 (43.3)	235 (56.0)	3.55	Tinggi
2.	Kombinasi warna yang digunakan menarik dan cantik		5(1.2)	183 (43.6)	232 (55.2)	3.54	Tinggi
3.	Saiz tulisan boleh dibaca dengan jelas	2(0.5)	7(1.7)	224 (53.3)	187 (44.5)	3.42	Sederhana
4.	Jenis tulisan mudah dibaca		5(1.2)	214 (51.0)	201 (47.9)	3.47	Sederhana
5.	Gambar atau grafik yang digunakan dapat difahami dengan jelas		4(1.0)	192 (45.7)	224 (53.3)	3.52	Tinggi
6.	Gambar yang digunakan sesuai dengan mesej yang dipaparkan		4(1.0)	187 (44.5)	229 (54.5)	3.54	Tinggi
7.	Susunan mesej tersusun dan kemas		6 (1.4)	210 (50.0)	204 (48.6)	3.47	Sederhana
8.	Bahasa yang digunakan mudah difahami		2(0.5)	175 (41.7)	243 (57.9)	3.57	Tinggi
9.	Ayat yang digunakan ringkas dan tepat	2(0.5)	5(1.2)	193 (46.0)	220 (52.4)	3.50	Sederhana
10.	Istilah kesihatan yang digunakan boleh difahami		3(0.7)	192 (45.7)	225 (53.6)	3.53	Tinggi
11.	Tidak perlu masa yang lama untuk baca dan faham	1(0.2)	8(1.9)	188 (44.8)	223 (53.1)	3.51	Tinggi
	Jumlah Keseluruhan					3.51	Tinggi

Jadual 5 menunjukkan jadual skor min bagi mengetahui tahap elemen infografik yang dipaparkan di *Facebook* Jabatan Kesihatan Negeri Pahang. Terdapat dua tahap yang berbeza setelah keputusan analisis dilakukan iaitu pada tahap Sederhana Tinggi dan Tinggi. Pada tahap Tinggi, item bahasa yang digunakan mudah difahami dengan nilai min 3.57. Manakala interpretasi min paling banyak iaitu Tinggi, item yang terlibat adalah infografik yang dihasilkan menarik (3.55), kombinasi warna yang digunakan menarik dan cantik (3.54), gambar atau grafik yang digunakan dapat difahami dengan jelas (3.52), gambar yang digunakan sesuai dengan mesej yang dipaparkan (3.54), istilah kesihatan yang digunakan boleh difahami (3.53), dan tidak perlu masa yang lama untuk baca dan faham (3.51). Seterusnya, item Sederhana Tinggi iaitu, saiz tulisan boleh dibaca dengan jelas (3.42), jenis tulisan mudah dibaca serta susunan mesej tersusun dan kemas yang mempunyai nilai min kedua-dua item ialah 3.47, dan ayat yang digunakan ringkas dan tepat (3.50). Secara keseluruhannya, item bagi tahap elemen infografik yang dipaparkan di *Facebook* Jabatan Kesihatan Negeri Pahang adalah pada tahap interpretasi Tinggi dengan skor min 3.51.

Bahagian D: Penilaian dan Tindakan Terhadap Mesej Kesihatan yang Dipaparkan di Facebook Jabatan Kesihatan Negeri Pahang
Jadual 6: Menilai dan Amalkan Maklumat yang Diperoleh

Bil	Item	Sangat Tidak Setuju	Tidak Setuju	Setuju	Sangat Setuju	Min	Tahap
1.	Mesej yang diperolehi melalui FB JKNP membantu dalam pencegahan COVID-19	3 (0.7)	185 (44.0)	232 (55.2)	3.55	Tinggi	
2.	Mengandungi mesej yang diperlukan	2 (0.2)	189 (45.0)	230 (54.8)	3.55	Tinggi	
3.	Mesej yang dipaparkan memberi penekanan aspek norma baharu	1 (0.2)	176 (41.9)	243 (57.9)	3.58	Tinggi	
4.	Mesej yang dipapar boleh dipercayai dalam mencegah COVID-19	1 (0.2)	178 (42.4)	241 (57.4)	3.57	Tinggi	
5.	Berkongsi mesej yang diperolehi dengan keluarga terdekat	4 (1.0)	182 (43.3)	234 (55.7)	3.55	Tinggi	
6.	Berkongsi mesej kesihatan yang diperolehi dengan rakan-rakan	1 (0.2)	174 (41.4)	245 (58.3)	3.58	Tinggi	
7.	Mesej yang diperolehi diamalkan dalam kehidupan seharian	1 (0.2)	172 (41.0)	247 (58.8)	3.59	Tinggi	
8.	Mesej yang dipaparkan mudah untuk dipraktikkan						
	Jumlah Keseluruhan				3.57	Tinggi	

Jadual 6 menunjukkan jadual skor min bagi mengetahui tahap menilai dan mengamalkan maklumat kesihatan yang diperolehi di *Facebook* Jabatan Kesihatan Negeri Pahang. Didapati keseluruhan item iaitu pada tahap interpretasi min Tinggi. Antara item yang terlibat adalah mesej yang dipaparkan memberi penekanan aspek norma baharu (3.60), mesej yang dipaparkan mudah dipraktikkan (3.59), mesej yang diperolehi diamalkan dalam kehidupan seharian (3.58), mesej yang dipapar boleh dipercayai dalam mencegah COVID-19 (3.58), berkongsi mesej yang diperolehi dengan keluarga terdekat (3.57), manakala ketiga-tiga item mempunyai nilai min yang sama (3.55) iaitu mesej yang diperolehi melalui FB JKNP membantu dalam pencegahan COVID-19, mengandungi mesej yang diperlukan, dan berkongsi mesej kesihatan yang diperolehi dengan rakan-rakan.

Secara keseluruhannya, item bagi tahap menilai dan mengamalkan maklumat kesihatan yang diperolehi di *Facebook* Jabatan Kesihatan Negeri Pahang adalah pada tahap interpretasi Tinggi dengan skor min 3.57. Ujian Korelasi Pearson menunjukkan bahawa terdapat hubungan yang signifikan antara tahap literasi kesihatan dan elemen infografik dengan nilai $r=0.448$, $p<0.05$. Manakala, penilaian terhadap mesej dan amalan terhadap literasi kesihatan juga signifikan dengan nilai ($r=0.530$, $p<0.05$). Kedua-dua hubungan tersebut berada pada tahap sederhana.

Ujian Korelasi Pearson turut digunakan untuk mengkaji hubungan antara tahap literasi kesihatan dan faktor demografi. Hasil ujian menunjukkan bahawa hubungan adalah tidak signifikan dengan faktor jantina ($r=0.072$, $p>0.05$), tahap pendidikan ($r=0.040$, $p>0.05$), dan bangsa ($r=-0.029$, $p>0.05$). Manakala, hubungan adalah signifikan dengan faktor pekerjaan ($r=-0.121$, $p<0.05$) dan pendapatan ($r=0.112$, $p<0.05$). Namun, hubungan tersebut adalah sangat lemah.

4. PERBINCANGAN DAN KESIMPULAN

4.1 Elemen infografik kesihatan yang dapat menarik minat pengikut halaman *Facebook* Jabatan Kesihatan Negeri Pahang.

Hasil kajian mendapati bahawa item bahasa yang digunakan dalam infografik kesihatan adalah mudah difahami. Dapatan ini menunjukkan bahawa pemilihan bahasa yang sesuai dengan latar belakang khalayak sasaran adalah penting dalam memupuk kefahaman masyarakat umum. Menurut Nurhidayah (2006), penggunaan kata lazim lebih sesuai dalam penulisan kepada umum. Kata yang lazim merujuk kepada penggunaan kata yang bersifat umum dan mudah difahami oleh masyarakat kerana kata yang bersifat umum ini digunakan secara meluas dalam kalangan masyarakat.

Terdapat beberapa elemen yang mendapat interpretasi tinggi. Antaranya adalah infografik yang dihasilkan menarik, kombinasi warna yang digunakan menarik dan cantik, gambar atau grafik yang digunakan dapat difahami dengan jelas dan gambar yang digunakan sesuai dengan mesej yang dipaparkan. Dapatan ini disokong oleh kajian Arina Johari et al, 2020 yang menyatakan bahawa simbol visual iaitu gambar, warna, tulisan dan mesej dianalisis berdasarkan unsur konteks dan andaian kognitif bagi menentukan makna sebenar yang diwakilinya. Keupayaan manusia untuk mentafsir maklumat berbentuk visual adalah lebih cepat berbanding perkataan yang ditulis. Kebanyakan manusia hanya mengingati kira-kira 30% apa yang dibaca, oleh itu bantuan visual akan meningkatkan lagi tahap ingatan mereka (Bradford, 2004). Penggunaan grafik dapat memberikan impak yang lebih signifikan terhadap daya ingatan manusia berbanding penggunaan teks semata-mata kerana ia mempunyai hubungan dengan pengalaman semula jadi manusia (Jamalludin Harun & Zaidatun Tasir (2003). Dapatan kajian ini juga selari dengan dapatan kajian oleh Alyahya dan Nasser (2019), Afify (2018), yang

mendapati bahawa bahan infografik membantu pengguna untuk mengingat fakta dengan cepat. Penggunaan infografik juga dapat memberi impak yang baik kepada memori pengguna. Selain itu juga mereka bersetuju untuk menyatakan bahawa penggunaan infografik memberi kesan memori ingatan bertahan lebih lama kepada minda pengguna. Kajian ini turut mendapat dapatan yang hampir sama iaitu wujud hubungan yang positif dalam penggunaan infografik terhadap kadar pemahaman dan ingatan pengguna (Hubbard, J. & Gallardo W., 2019).

Seterusnya, antara elemen yang mendapat interpretasi tinggi adalah saiz tulisan boleh dibaca dengan jelas, jenis tulisan mudah dibaca serta susunan mesej tersusun dan kemas dan ayat yang digunakan ringkas dan tepat. Secara keseluruhannya, item bagi tahap elemen infografik yang dipaparkan di *Facebook* Jabatan Kesihatan Negeri Pahang adalah pada tahap interpretasi Tinggi dengan skor min 3.51.

4.2 Hubungan antara infografik kesihatan dengan tahap literasi kesihatan

Hasil kajian mendapati bahawa terdapat hubungan yang sederhana antara tahap literasi kesihatan dan infografik kesihatan yang dipaparkan di *Facebook* Jabatan Kesihatan Negeri Pahang dengan nilai $r=0.448$ dan $p<0.05$. Hal ini bermakna infografik berkaitan COVID-19 yang dihasilkan oleh pihak Jabatan Kesihatan Negeri Pahang difahami oleh pengikut Facebook Jabatan Kesihatan Negeri Pahang. Kenyataan ini disokong oleh Sharudin, S. A., Mustaffa, N., & Sannusi, S. N. (2020) iaitu dari sudut pemilihan jenis visual oleh Kementerian Kesihatan Malaysia (KKM), dapatan kajian menunjukkan bahawa visual infografik adalah visual yang sering digunakan oleh KKM diikuti gambar foto dan ilustrasi. Visual infografik bukan sekadar kerap digunakan pada informasi kesihatan malahan bagi keseluruhan penggunaan hantaran KKM dalam menyampaikan maklumat kesihatan. Ianya menggambarkan bahawa penggunaan

infografik dapat membantu khalayak meningkatkan kesedaran tentang kesihatan kerana visual ini selain memberi maklumat dalam bentuk teks, ia juga memaparkan visual yang mengukuhkan kandungan teks. Infografik adalah alat komunikasi yang berguna dan inovatif dengan potensi yang tinggi untuk menjadikan maklumat kesihatan lebih mudah diakses oleh masyarakat umum (McCrorie, AD. et al, 2016).

4.3 Hubungan antara literasi kesihatan dengan faktor demografi

Hasil kajian menunjukkan bahawa tidak terdapat hubungan antara tahap literasi kesihatan dengan faktor jantina ($r=0.072$, $p>0.05$), tahap pendidikan ($r=0.040$, $p>0.05$), dan bangsa ($r=-0.029$, $p>0.05$). Manakala terdapat hubungan yang sangat lemah antara tahap literasi kesihatan dan faktor pekerjaan dengan nilai $r= -0.121$, $p<0.05$ dan pendapatan dengan nilai $r= 0.112$, $p<0.05$. Kajian ini menunjukkan tahap literasi kesihatan dipengaruhi oleh faktor pekerjaan dan pendapatan sahaja. Dapatan ini tidak selari dengan kajian daripada Abdullah, A. H., & Mohamad, E. (2018) yang menyatakan bahawa wujud hubungan signifikan antara tahap pendidikan ($r=0.250^{**}$) dan pendapatan isi rumah ($r=0.318^{**}$) dengan literasi kesihatan. Dapatan kajian beliau juga menunjukkan bahawa faktor kekerapan penggunaan media, tiada hubungan signifikan dengan literasi kesihatan iaitu pada nilai $r=-0.014$. Dapatan kajian ini selari dengan kajian yang telah dijalankan di China oleh Liu et al. (2015). Kajian tersebut mendapati bahawa faktor pendapatan mempunyai hubungan yang signifikan dengan literasi kesihatan. Sebaliknya kajian oleh Liu et al. (2015) menunjukkan faktor pendidikan tidak mempunyai hubungan yang signifikan dengan literasi kesihatan.

4.4 Hubungan antara infografik kesihatan dengan penilaian dan amalan terhadap mesej yang dipaparkan

Secara keseluruhannya, tahap penilaian terhadap mesej dan mengamalkan maklumat kesihatan yang diperoleh di *Facebook* Jabatan Kesihatan Negeri Pahang adalah pada tahap interpretasi Tinggi dengan skor min 3.57. Hasil kajian mendapati bahawa terdapat hubungan yang sederhana antara infografik kesihatan yang dipaparkan di *Facebook* Jabatan Kesihatan Negeri Pahang dan faktor penilaian terhadap mesej serta amalan yang dilakukan dalam kehidupan masyarakat pengikut *Facebook* Jabatan Kesihatan Negeri Pahang dengan nilai $r=0.530$ dan $p<0.05$. Oleh itu, jelas menunjukkan bahawa mesej pencegahan COVID-19 yang dipaparkan di *facebook* Jabatan Kesihatan Negeri Pahang dapat dipraktikkan kepada individu dan masyarakat sekeliling. Dapatan ini disokong oleh kajian Egan, M. et al, (2021) yang menyatakan bahawa rangsangan visual dalam bentuk infografik mampu untuk meningkatkan kepatuhan masyarakat, dari aspek teknik dan langkah pencegahan seperti penggunaan pelitup muka. Usaha yang berterusan sebegini adalah penting untuk mengurangkan penularan dan kesan COVID-19 terhadap kesihatan awam. Hasil kajian ini juga selari dengan kajian oleh Kim & Yang, (2017) iaitu tindakan pengguna media sosial untuk *like*, *share* atau *comment* dalam media sosial boleh membawa maksud yang tersirat. Kebiasaannya pengguna akan lebih cenderung untuk *like* status yang bergambar dan memberi komen pada status yang meminta maklum balas atau bermaklumat. Manakala bagi status bergambar atau video yang mempunyai unsur nilai-nilai murni akan dikongsi oleh pembaca. Sebaliknya, bagi hantaran yang mempunyai nilai negatif atau membangga diri akan diabaikan oleh pengguna. Keadaan ini menunjukkan bahawa tingkah laku pengguna dalam dunia digital merupakan cerminan untuk mengetahui sama ada sesuatu mesej yang disampaikan itu berkesan atau tidak.

Kesimpulannya, selari dengan perkembangan semasa, pembangunan atau penerbitan bahan multimedia seperti infografik amat diperlukan bagi menyebarkan maklumat. Bahan yang diterbitkan haruslah mempunyai kualiti yang baik dan bermutu agar dapat memastikan mesej yang disampaikan bergerak lebih jauh dalam media sosial. Infografik pencegahan COVID-19 yang dipaparkan di halaman Facebook Jabatan Kesihatan Negeri Pahang mempunyai elemen infografik yang baik dan pengikut halaman Facebook ini aktif mendapatkan maklumat kesihatan tentang COVID-19 di Facebook tersebut seterusnya memberi impak kepada tahap literasi kesihatan dan amalan pengikut di media sosial khususnya dan masyarakat umumnya.

Kebenaran dan kelulusan bagi menjalankan kajian ini diperolehi daripada Medical Research and Ethics Committee (MREC), (Ruj. : KKM/NIHSEC/P20-1888(3) dan didaftarkan dengan National Medical Research Register, Kementerian Kesihatan Malaysia (NMRR ID: NMRR-20-1867-56068). Tiada sumber luar bagi pembiayaan penyelidikan ini dan tiada konflik kepentingan dalam kajian ini. Penulis ingin mengucapkan terima kasih kepada Ketua Pengarah Kesihatan Malaysia atas kebenaran untuk menerbitkan jurnal ini.

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CLIENT'S SATISFACTION: UPSURGE OF ACCESS TO HEALTH FOR THE RURAL AND REMOTE POPULATION THROUGH MOBILE HEALTH CLINICS

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Abstract

Introduction: Access to health is the one of the component of determinants of health. The social determinants of health (SDH) are the conditions, in which people are born, grow, work, live, and age. One of the components on social determinants of health is the health inequities. 1Malaysia Mobile Clinic, better acknowledged as a Klinik Bergerak 1Malaysia (KB1M), provides health services for rural communities principally target groups who are residing in estates, traditional villages and Orang Asli settlements, and can be also accessed by the general public as a part of the Ministry's endeavor for universal health coverage. **Methods:** Presently, seven KB1M buses are operationalized namely in Perak, Selangor, Johor, Pahang, Sabah and Sarawak including two KB1M boats each in Sarawak and Sabah. The KB1M team is led by Medical Officers. The scope of services includes outpatient, Maternal and child health care, expanded scopes, point of care test and dispensing drugs. It is scheduled to visit identified locations biweekly and no fee is charged for Malaysians. Thus far, KB1M buses and boats visited 168 stations covering 362 villages. **Results:** Mostly females (61.9%) had accessed compared to males (38.1%). Under ethnicity. Others have used the services followed by Malays. Predominantly, self-employed (36.6%) and housewives (27%) from no income to income more than RM2000 used the service. Overall 99.6 % of the users were able to access for these services and 99.4 % users were satisfied with

these health services. **Conclusion:** Ministry of Health Malaysia will continuously improve the accessibility for health services in order to accomplish health equity. In addition, it is also engaging stakeholders to adopt the healthy lifestyle by addressing the social and economic factors through 1Malaysia Mobile Clinic as one of the initiatives of approaching mass population.

Keywords: mobile health clinic, 1Malaysia mobile health services, social determinants of health

1. INTRODUCTION

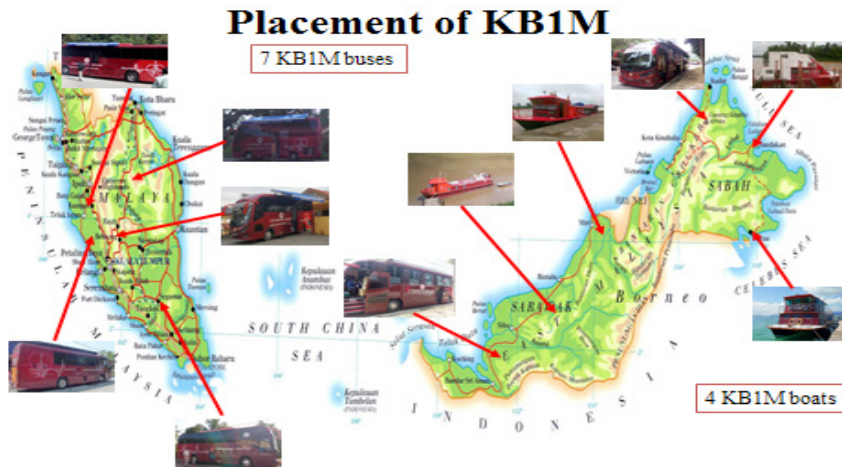
1.1 Background

Access to health is one of the basic necessities of human life. It is a fundamental right to maintain health which include affordability, availability, approachable and quality¹. Ministry of Health Malaysia addresses the Social Determinants of Health by providing health care services to the rural and remote population through Mobile Health services as an innovative approach compared to the conventional existing mobile health services. Social determinants of health are the conditions in which people are born, grow, live, work and age whereby access to health care is the one of the component of Social Determinants of Health².

Mobile health clinics are set up as an extension of the services for the population who resides far from the existing health clinics. It is also called as an outreach program that aimed to increase access to health. The innovative Mobile Health Clinic is better acknowledged as a KB1M. This mobile clinics provide health services for rural communities predominantly those who are residing in estates, traditional villages, Orang Asli settlements and also in Sabah and Sarawak as a part of the Ministry's endeavour for universal health coverage³. In 2017, seven KB1M buses are operationalized namely in Perak, Selangor, Johor, Pahang, Sabah and Sarawak including two KB1M boats each for Sarawak and Sabah (figure1). The team (KB1M) is led by medical officer. The scope of services includes

outpatient, Maternal and child health care, expanded scopes, point of care test and dispensing drugs. Mobile health teams visits are scheduled to identified locations every two weeks and services are provided free of charge for Malaysians⁵.

Figure 1: Placement of KB1M in Malaysia



Note. source from Family Health Development Division, MOH 2017

1.2 Rationale

KB1M is an initiative under the product of 1 Malaysia concept where buses and boats are used to provide to access to health services especially for rural communities. It was endorsed by the cabinet on 16th July 2010 and launched by the prime minister in state of Perak in 2010. The aim is to provide accessibility to a comprehensive health services for the targeted group of population either by land or water depending on the local needs.

1.3 Objective

General Objective

To determine the accessibility to the health services and level of satisfaction for accessibility of health services among rural population for KB1M of Ministry of Health (MOH).

2. MATERIALS AND METHODS

2.1 Study Type

A cross-sectional population satisfaction survey was conducted 10 states nationwide among the users of KB1M services. This questionnaire was revised and is a combination of the MOH Client Friendly Clinic Survey that has been conducted annually by MOH (MOH, 2001)⁶ together with Community Perception Module used in recent National Health Morbidity Survey, NHMS 2015 (IPH, 2015)⁷.

2.2 Study population

Respondents are user of the services with eligibility criteria as below:

- i. Age between 18 and 59 years old
- ii. Able to read the questionnaire

For respondents aged below 10 years old, parents / proxy guardians were asked instead

2.3 Sampling

Sampling technique

It is a universal sampling (all KB1Ms were selected). Convenient sampling were used for the selection of the respondents.

Sample size calculation

Sampling for the survey was done to ensure a representative sample of the population is obtained for KB1M stratification (Peninsular Malaysia & Sabah-Sarawak). The sample size for each state and stratification was calculated using standard formula for prevalence study (Naing et al., 2006)⁸ based on 95% confidence interval, a 5% level of precision, and estimated prevalence rate of patient satisfaction of 50%. Additional 20% will be accounted for the non-response, for total respondent required. For user, number of population was based on averaged 3-months total attendance for year 2015 (due to planned 3 months of data collection). Number of respondents for KB1M services stratified proportionately to the number of attendance in respective states and districts (i.e., district/states with higher number of attendances will have more respondents). The total sample is 924 users from the average attendances of 22,735 users.

2.4 Data Collection

The data collection was done within a 4 months of period, from March to Jun 2017. Self-administered questionnaire (SAQ) were distributed to 10 states namely Kedah, Perak, Selangor, Negeri Sembilan, Johor, Pahang, Kelantan, Terengganu, Sabah and Sarawak. SAQ were further distributed to districts by state primer officers to medical officer in charge of selected clinic. Each respondent was informed that the satisfaction survey is voluntary and consent is obtained verbally if they agree to take part in the survey.

2.5 Data management

Data entry and data quality control was done by respective health clinics and submitted to Family Health Development Division for completion. Database was transferred into MS Excel format for analysis. Data entry form has been developed and shared with respective health clinics to ease data collection of all KB1M throughout Malaysia. It uses drop-down-menu (with definition) to minimize error and to ease counter checking.

2.6 Data Analysis

In general, Satisfaction questions for users were rated using 5-point Likert scale (1=very not satisfied “sangat tidak berpuas hati”; 5=very satisfied “sangat berpuas hati”). Questions related to satisfaction were changed to a binary (“not satisfied” (rated less than 4)/ “satisfied” (rated 4 & 5)) variable for ease of analysis. Data were entered into the MS Excel sheet by the person in charge at the district level.

2.7 Ethical Considerations

Respondents were on voluntary basis and were briefed that this satisfaction survey/feedback shall not pose any risk. Respondents were allowed to withdraw or not completing the questionnaire for any reason. This study only involved self-administered questionnaire and did not involve any clinical procedures. All information and responses obtained were kept confidential at all phases of the study and were used solely for research purposes.

3. RESULTS

Table 1: Sociodemographic of the clients

Sociodemographic	Number	Percentage
Age		
≤ 10 years	3	0.3
10 years to 19 years	69	7.3
20 years to 59 years	659	69.9
≥ 60 years	212	22.5
Gender		
Male	359	38.1
Female	584	61.9
Ethnic		
Malay	342	36.3
Chinese	57	6.0

Sociodemographic	Number	Percentage
Indians	28	3.0
Orang Asli	62	6.6
Others	454	48.1
Occupations level		
Public sector	42	4.5
Private sector	69	7.3
Self-employed	345	36.6
Housewife	260	27.6
Retired	26	2.8
Student	35	3.7
Unemployed	166	17.6
Income		
RM 250 and less	208	22.1
RM 251- RM 500	203	21.5
RM 501- RM 1000	253	26.8
RM 1001- RM 1500	159	16.9
RM 1501- RM 2000	69	7.3
More than RM 2000	45	4.8
No income	6	0.6
Characteristic of socioeconomic		
Duration taken		
Less than 30 minutes	787	83.5
30 minutes to 1 hour	37	3.9
more than 1 hour	119	12.6
Transport		
Car		
Motorcycle	265	28.1
Bicycle	13	1.4
Bot	53	5.6
Public / private transport	10	1.1
Walking	272	28.8
Other	3	0.3

Sociodemographic	Number	Percentage
Services received by respondents		
Purpose of visit for services		
Out-patient / maternal and child health	839	89.0
Health screening	99	10.5
Health promotion	4	0.4
Emergency	1	0.1
Are you visiting by appointment		
Yes	629	66.7
No	314	33.3
Whether this mobile health service follows its schedule		
Yes	150	15.9
No	668	70.8
Don't know	125	13.3

The descriptive finding from table 1: The age group between 20 years to 59 years old (69.9%) commonly used the service and followed by these aged more than 60 years old (22.5%) clients. Mostly females (61.9%) had accessed compared to males (38.1%). Under the ethnicity. Others have used the services the most and followed by Malays. Predominantly, self-employed (36.6%) and housewives (27%) from no income to income more than RM2000 used the service. The duration taken to receive health services at less than 30 minutes involved 83.5% while more than 1 hour was 12.6%. The most common mode of transport used was walking (28.8%) and motorcycle (28.1%) while public/private transport was only 1.1%. The purpose of visit was mainly for outpatient or maternal and child health services (89%), mostly on appointment based. However, 70.8% of clients claimed that the KB1M do not follow do its schedule. This could be attributed due to geographical and resources challenges that the clinic staff faced in accessing those remote areas.

Figure 2: Overall Satisfaction of Clients for Health Services by KB1M

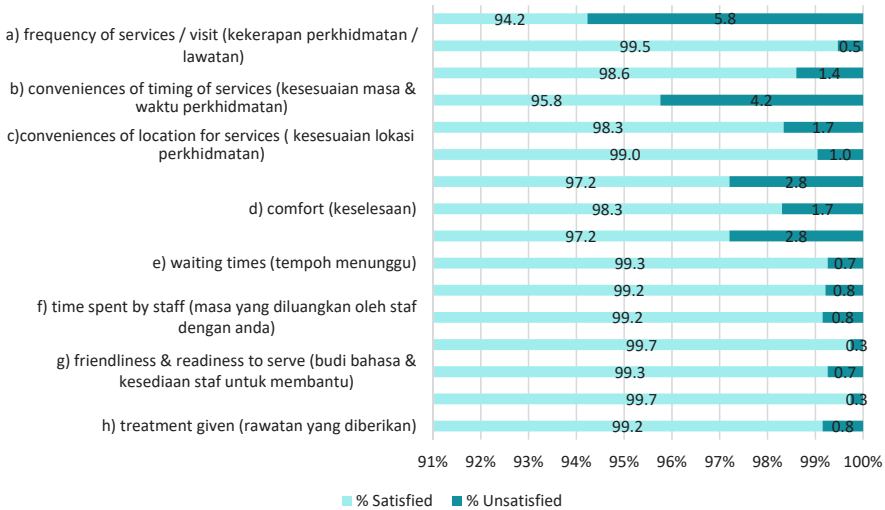
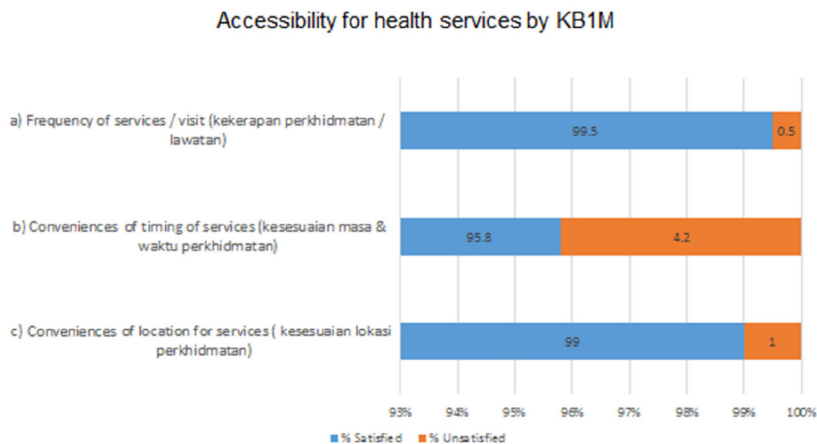


Figure 2 shows that almost 99.6 % KB1M users were satisfied for the services delivered while figure 3 shows that 99.4 % clients were satisfied with the accessibility of health services that they have been receiving from the KB1M.

Figure 3: Accessibility for health services by KB1M



4. DISCUSSION

Malaysia seeks to continue to improve health of individuals to reduce disparities between population in access to health and use of healthcare services⁹. Another study has reported that mobile health clinics are innovative models of health care delivery that help in alleviating health disparities in vulnerable population¹⁰. In addressing the social determinants of health, Malaysia has drawn upon its value of social justice and equity to foster national unity¹¹. This is supported by Catherine F et al that mobile clinic improve access for vulnerable population and overcome barriers of time, money, trust, and provide community tailored care¹².

The finding from this study reflected that mobile health services has addressed the need of access to health to the community mainly to the population in rural and remote areas. These services was very much affordable, accessible, appropriate and acceptable by the population. The fee is waived, no transportations issues, waiting time is taken care and the service is close to home. Besides that KB1M provide early detection, prevention, promotion, rehabilitative care and palliative care¹³. Peters et al reported high levels of satisfaction for mobile clinics services which has introduced primary health care to particularly inaccessible communities in Katsina state, Nigeria¹⁴. This current study, has in fact, showed 99.4% level of satisfaction by users benefiting from KB1M mobile health services.

A study by Britton Gibson et al underlined that Mobile Medical Clinics (MMCs) are enable to increase access to care as venues of convenience and delivering healthcare at the doorstep.¹⁵ Mobile clinics can improve access by serving as a vital link between the community and clinical facilities as stated by the Nelson C et al.¹⁶

5. CONCLUSION

The access to health services is the key component and it is human rights as well. In order to accomplish health equity the Ministry of Health Malaysia is committed in delivering health services to the rural and remote population through various mode by repurposing the type of vehicles that best suits the need of the respective areas. The concept of KB1M is applied to address the issue of universal health coverage. Overall, the users were able to access and are satisfied with the health services that is provided by KB1M. Besides that , KB1M cater early detection, prevention, promotion, rehabilitative and palliative care. In addition, it is also engaging stakeholders to adopt healthy lifestyle. The service provided is closer to home and free of cost, address the transportations issues, shorter waiting time and reduces financial hardship. Outcomes from this study will benefit the policy maker to support these services to strengthen the service delivery for better quality of care for the rural and remote population by prioritizing the resources to have equity in access to health care.

6. RECOMMENDATIONS

- 6.1 Policy implementation to increase numbers of mobile health services using buses and boats to other states to address the issue accessibility to quality healthcare.
- 6.2 To strengthen skills and knowledge of the health care providers in delivering comprehensive healthcare services.
- 6.3 To include planning of the resources for the sustainability and continuation of care to the rural population.

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PENERIMAAN MESEJ KESIHATAN BAGI MENGAWAL BERAT BADAN DAN MELAKUKAN AKTIVITI FIZIKAL DALAM KALANGAN PESAKIT DIABETES

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Abstrak

Mesej kesihatan boleh dirumus sama ada dalam bentuk positif atau negatif. Ini kerana kerangka mesej kesihatan positif dan negatif mempunyai kesan yang berbeza terhadap perubahan tingkah laku kesihatan individu. Kajian ini bertujuan untuk mengenal pasti sama ada kerangka mesej positif atau kerangka mesej negatif lebih diterima oleh pesakit diabetes dalam mengawal berat badan dan melakukan aktiviti fizikal. Dalam kajian kualitatif ini, 10 sesi perbincangan kumpulan fokus (FGD) dengan pesakit diabetes telah dijalankan di fasiliti penjagaan kesihatan kerajaan di 6 negeri di Malaysia dari Jun 2011 hingga Disember 2012. Informan dipilih dengan menggunakan teknik persampelan bertujuan. Soal selidik separa berstruktur telah digunakan untuk mendapatkan maklum balas daripada informan. Seramai 94 orang informan yang terlibat dalam kajian ini terdiri daripada 52 orang lelaki dan 42 orang perempuan berumur di antara 50 hingga 60 tahun. Keputusan telah menunjukkan bahawa majoriti informan lebih menerima kerangka mesej positif berdasarkan pemahaman, kesesuaian dan pengalaman lepas mereka. Kebanyakan informan berpendapat bahawa kerangka mesej positif

mendorong mereka untuk mengawal kesihatan mereka dengan lebih baik manakala kerangka mesej negatif mengandungi unsur ketakutan dan ancaman yang tidak meyakinkan. Kesimpulannya, mesej positif dapat meningkatkan motivasi penjagaan kesihatan, kesedaran, pengetahuan, dan amalan untuk kualiti hidup yang lebih baik. Memahami perasaan pesakit serta pengalaman yang mereka lalui memberikan pemahaman yang lebih baik tentang jenis mesej yang akan mempunyai kesan yang paling besar.

Kata kunci: *Mesej kesihatan, mesej positif, mesej negatif, pengawalan berat badan, aktiviti fizikal.*

Abstract

Health messages can be formulated in either positive or negative forms. This is because positive and negative health message frameworks have different effects on changes in individual health behaviors. This study aimed to identify whether positive message frameworks or negative message frameworks are more accepted by diabetes patients in controlling body weight and engaging in physical activities. In this qualitative study, 10 focus group discussion (FGD) sessions with diabetic patients were conducted at government healthcare facilities in 6 states in Malaysia from June 2011 to December 2012. Informants were recruited by employing the purposive sampling technique. A semi-structured questionnaire was used to obtain feedback from the informants. A total of 94 informants were involved in this study i.e. 52 males and 42 females, aged between 50 to 60 years. The results show that majority of informants are more receptive to a positive message framework based on their understanding, appropriateness, and past experience. Most informants felt that a positive message framework encouraged them to take better control of their health while a negative message framework contained elements of fear and unconvincing threats. In conclusion, positive messages can increase

health care motivation, awareness, knowledge, and practice for a better quality of life. Understanding patient's feelings, as well as the experiences they go through, provides a better understanding of the types of messages that will have the greatest impact on them.

Keywords: *health messages, positive message, negative message, control body weight, physical activity.*

1. PENDAHULUAN

Mesej kesihatan merupakan alat yang utama dalam membantu masyarakat atau pesakit untuk mengubah tingkah laku. Pembentukan mesej bagi mempengaruhi perubahan tingkah laku sangat mencabar kerana memerlukan tahap pengetahuan yang tinggi memandangkan sikap negatif, motivasi dan sifat sendiri seseorang individu sentiasa berubah. (Rothman & Salovey 1997).

Mesej kesihatan boleh menyediakan maklumat dengan format berbeza-beza untuk mempertingkatkan persepsi termasuk negatif yang perlu diambil, atau menyediakan maklumat perbandingan sebagai alternatif untuk mempertingkatkan perhatian. Mesej ini mensasarkan kepada kemungkinan tingkah laku yang positif atau negatif bagi seseorang individu membuat keputusan sama ada menerima atau tidak tingkah laku yang disarankan (Rothman & Salovey 1997; Rothman et al. 2003).

Istilah mesej dapat diaplikasi kepada mesej berbentuk pemujukan yang dibentuk untuk mengubah tingkah laku dalam bidang penjagaan kesihatan. Mesej kesihatan yang dibentuk bukan sahaja untuk mengubah tingkah laku pesakit khususnya tetapi juga orang ramai. Berdasarkan kajian lepas, didapati mesej kesihatan akan lebih berkesan sekiranya ia ada kena mengena dengan diri dan keluarga seseorang (Samsudin & Latiffah 2000).

Mesej yang memberi penekanan kepada faedah kesihatan terbukti lebih berkesan untuk meningkatkan motivasi individu. Satu kebiasaan atau lumrah bahawa manusia memang sukar untuk mencipta mesej kesihatan yang berkesan dan kita sebagai anggota kesihatan memerlukan mesej-mesej yang lebih berkesan untuk disampaikan kepada masyarakat. Maka satu kajian untuk mengenal sama ada ada mesej positif atau mesej negatif perlu dijalankan untuk mendapatkan pandangan tentang mesej yang digemari oleh masyarakat khususnya dalam kalangan pesakit diabetes.

1.1 Objektif Kajian

Untuk mendapatkan pandangan peribadi daripada para informan terhadap penerimaan mesej sama ada kerangka mesej kesihatan positif atau kerangka mesej kesihatan negatif bagi mengawal berat badan dan melakukan aktiviti fizikal.

2. METODOLOGI

2.1 Reka bentuk kajian

Kajian kualitatif menggunakan Sepuluh (10) Perbincangan Kumpulan Berfokus (PKB) dalam kalangan pesakit diabetes telah dilaksanakan dari Jun 2011 hingga Disember 2012. Setiap PKB dianggotai seramai 10 orang informan berdasarkan kriteria penerimaan. Walau bagaimanapun, disebabkan masalah tertentu jumlah informan yang sebenar seperti mana dalam Jadual 2.

2.2 Pemilihan subjek

Pemilihan subjek menggunakan persampelan bertujuan berdasarkan kriteria penerimaan iaitu terdiri daripada pesakit diabetes Jenis 2, BMI yang melebihi 25 ke atas, bersetuju untuk menjadi responden dan boleh membaca dalam Bahasa Malaysia. Kriteria penolakan; informan tidak sihat dan bukan warganegara Malaysia. Informan terdiri daripada kaum Melayu, Cina, India, Bumiputra Sabah dan Bumiputra Sarawak yang menerima rawatan di klinik dan hospital di seluruh negara iaitu di enam (6) klinik dan empat (4) hospital kerajaan yang terpilih di enam (6) zon utama iaitu:

- a. Zon Utara – Kedah (Klinik Kesihatan Naka dan Klinik Kesihatan Kota Setar)
- b. Zon Timur – Pahang (Klinik Kesihatan Jaya Gading)
- c. Zon Tengah – Selangor (Hospital Tengku Ampuan Rahimah, Klang dan Hospital Ampang)

- d. Zon Selatan - N.Sembilan (Klinik Kesihatan Rasah)
- e. Zon Sabah - Klinik Kesihatan Luyang dan Klinik Kesihatan Membakut.
- f. Zon Sarawak - Hospital Umum Sarawak dan Hospital Serian

2.3 Pengumpulan data

Satu set soalan semi-struktur untuk kajian ini telah dibentuk berdasarkan kajian kepustakaan dan perbincangan antara pasukan penyelidik (Sila lihat Lampiran 1). Sebelum sesi PKB dimulakan, informan telah dijelaskan bahawa rakaman suara sepanjang sesi temu bual dijalankan bagi tujuan penyelidikan sahaja. PKB hanya dimulakan apabila informan telah bersedia dan selesa untuk ditemubual. PKB ini mengambil masa selama 30-40 minit. Setiap kali apabila selesai suatu sesi temu bual, penyelidik mendengar semula rakaman PKB berkenaan untuk mengenal pasti kualiti temubual dan rakaman. Seterusnya, penyelidik membuat transkripsi verbatim bagi rakaman PKB yang telah dirakamkan.

2.4 Analisis data

Semua data temuramah semasa PKB telah dirakam dengan menggunakan perakam dan kemudiannya ditranskripsikan. Data yang dirakam, didengari berulang kali bagi mencatat data yang benar-benar asli. Data ini kemudiannya telah dikod mengikut tema-tema yang ditetapkan dan dianalisis menggunakan perisian Nvivo versi 9.0. Kesahihan data dibuat melalui perbandingan antara transkripsi dan catatan oleh pencatat bagi memastikan data yang diperoleh sepanjang PKB adalah sama. Kajian ini telah mendapat kelulusan daripada Jawatankuasa Etika dan Penyelidikan Perubatan (MREC), KKM (NMRR-ID- 11-279-9198)

2.5 Kerangka Mesej Dibentuk Berdasarkan Teori Prospek

Teori Prospek menyatakan masyarakat memberi reaksi berbeza yang ketara kepada mesej bergantung kepada bagaimana mesej ini dirangka. Kerangka mesej merujuk kepada penekanan mesej dalam bentuk positif atau negatif dapat diterima pakai dalam tingkah laku tertentu (Tversky & Kahneman 1981).

Teori Prospek memberi penekanan kepada pemujukan mesej sebagai salah satu unsur motivasi yang penting untuk perubahan tingkah laku. Teori ini menerangkan tentang seseorang akan lebih menerima risiko apabila diberi maklumat yang negatif berbanding maklumat yang positif. Teori ini menuntut orang ramai menilai maklumat dalam keadaan sama ada memberi faedah atau memberi kemudaran daripada sumber yang mereka rujuk (Tversky & Kahneman 1981; Petty & Wegener 1998).

Berdasarkan Teori Prospek, dua jenis kerangka mesej iaitu Kerangka Mesej Kesihatan Positif (KMKP) dan Kerangka Mesej Kesihatan Negatif (KMKN) yang memberi tumpuan kepada mengawal berat badan dan melakukan aktiviti fizikal telah dirumus untuk kajian ini (Jadual 1)

Kerangka mesej ini dibentuk dan dibangunkan oleh beberapa orang pakar dari Bahagian Pendidikan Kesihatan, Bahagian Kawalan Penyakit dan Institut Penyelidikan Tingkahlaku Kesihatan. Definisi operasional kerangka mesej positif dalam kajian ini adalah menunjukkan unsur-unsur yang lebih bersifat kearah motivasi dan dapat memberi manfaat agar responden dapat mengamalkan ke arah gaya hidup yang lebih sihat. Manakala definisi operasional kerangka mesej negatif adalah mesej yang tidak menyenangkan, lebih kepada kelemahan atau keburukan.

Jadual 1: Menunjukkan Kerangka Mesej Kesihatan Positif dan Kerangka Mesej Kesihatan Negatif

<i>KERANGKA MESEJ KESIHATAN POSITIF (MESEJ 1)</i>
<i>“Saya kelihatan lebih muda dan sihat jika mengekalkan Berat badan Unggul (Body Mass Index) dengan melakukan aktiviti fizikal. Badan saya sentiasa sihat, jika saya makan makanan berkhasiat”</i>
<i>KERANGKA MESEJ KESIHATAN NEGATIF (MESEJ 2)</i>
<i>“Jika saya tidak melakukan aktiviti fizikal, saya kelihatan tidak bermaya dan mudah mendapat penyakit. Saya akan menjadi gemuk jika makan makanan berlemak dan kesihatan saya akan terjejas jika tidak mengambil makanan sihat (berkhasiat)”</i>

3. HASIL KAJIAN

3.1 Latar belakang demografi responden

Jadual 2 menunjukkan sejumlah 94 informan (94%) yang terdiri daripada 52 lelaki, 42 perempuan yang berumur di antara 50 hingga 60 tahun telah terlibat dalam kajian ini.

Jadual 2: Senarai PKB mengikut lokasi, bilangan dan jantina responden

No.	Lokasi Kajian	Bil. Responden	Jantina	
			Lelaki	Perempuan
1.	Hospital Ampang, Selangor.	7	3	4
2.	Hospital Tg. Ampuan Rahimah, Klang, Selangor.	8	7	1
3.	Klinik Kesihatan Naka, Kedah.	10	7	3

4.	Klinik Kesihatan Kota Setar, Kedah.	10	7	3
5.	Klinik Kesihatan Jaya Gading, Kuantan, Pahang.	10	5	5
6.	Klinik Kesihatan Rasah, Seremban, Negeri Sembilan.	10	4	6
7.	Klinik Kesihatan Membakut, Sabah.	10	3	7
8.	Klinik Kesihatan Luyang, Sabah.	10	4	6
9.	Hospital Umum, Sarawak.	9	4	5
10.	Hospital Serian, Samarahan.	10	9	1
Jumlah		94	52	42

3.2 Hasil penemuan berdasarkan tema-tema yang telah dibentuk adalah seperti berikut:

3.2.1 Kefahaman terhadap kerangka mesej

Kebanyakan informan memahami mesej yang mereka baca sama ada Kerangka Mesej Kesihatan Positif (KMKP) atau Kerangka Mesej Kesihatan Negatif (KMKN). Ini disebabkan kedua-dua mesej ini menggunakan ayat yang pendek dan bahasa yang mudah untuk difahami. Mesej positif menekankan kepada faedah yang akan diperoleh oleh informan sekiranya mereka mengamalkan gaya hidup sihat yang dicadangkan oleh Kementerian Kesihatan Malaysia. Informan dapat menjelaskan maksud mesej tersebut dengan baik dan memahami setiap mesej yang dinyatakan kepada mereka.

“Dalam pemahaman saya, dalam mesej 1 dia macam untuk menerangkan kita bagaimana cara kita menjaga kesihatan badan kita. Jadi, contohnya seperti di sini, dia bagi tahu buat aktiviti fizikal macam senaman dan sebagainya. Makan makanan yang berkhasiat,

jadi maksud di sini untuk kita kekalkan kesihatan badan dengan berat badan jadi daripada segi kita jaga benda macam itu. Badan kita akan bertambah sihatlah...”(SK5)

Kerangka Mesej Kesihatan Negatif pula menekankan kepada akibat sekiranya mereka tidak mengamalkan cara hidup sihat. Informan dapat menjelaskan maksud tersebut dan memahami mesej yang disampaikan kepada mereka

“Mesej 2 dia menekankan kita bahawa jika kita tidak melakukan aktiviti fizikal seperti bersenam nanti badan kita sentiasa tidak bermaya letih dan mudah mendapat penyakitlah. Badan pun akan jadi gemuk jika makan makanan yang berlemak dan kesihatan akan terjejas jika tidak ambil makan makanan yang berkhasiatlah...”(SU2).

3.2.2 Kesesuaian mesej

Setiap mesej yang dihasilkan untuk perubahan tingkah laku perlu bersesuaian dengan kumpulan sasar sama ada mesej berbentuk positif (aktif) atau negatif (pasif). Majoriti informan menyatakan KMKP lebih sesuai berbanding KMKN. Pada pandangan mereka, mesej yang positif lebih sesuai kerana setiap mesej yang positif mampu merangsang keinginan untuk menjaga kesihatan dan memotivasikan diri mereka untuk mempertingkatkan lagi kualiti hidup mereka. KMKP yang memperkatakan tentang *“Saya kelihatan lebih muda”, “Badan saya sentiasa sihat”* memberi makna kepada mereka dan menjadi pilihan mereka.

“Saya pilih nombor satu, jaga makan, exercise, boleh sihat...”(BA6)

“Saya lebih minat kepada BM1. Yang pertama berat badan unggul atau BMI. Bila kita mengekalkan berat badan unggul, dapat kita maintain all the problem. Salah satu apabila lebih gemuk very fast penyakit

datang. Bagi saya berat badan unggul yang dapat mengawal simptom penyakit tu lah. Sebab bila badan unggul pemulaan untuk kita atasi penyakit sebelum mudarat atau badan berat...(SS5)

Walau bagaimanapun terdapat juga informan yang merasakan mesej negatif sesuai dengan mereka. Informan merasakan mesej yang negatif akan mengingatkan mereka untuk mengambil langkah pencegahan daripada mengalami keterukan akibat dari komplikasi penyakit diabetes.

3.2.3 Mesej yang paling disukai

Sebahagian besar daripada informan telah memilih KMKP kerana mengharapkan tahap kesihatan mereka akan lebih baik dan berkualiti. Mereka akan sentiasa berusaha untuk memastikan diri mereka sihat dengan mematuhi arahan anggota kesihatan dengan mendapatkan pemeriksaan kesihatan secara berkala, serta mengamalkan cara hidup sihat. Informan merupakan golongan yang bermotivasi untuk sentiasa menjaga kesihatan mereka dari komplikasi yang lebih teruk, seterusnya dapat menjalani kehidupan yang lebih baik pada masa akan datang.

“...mesej 1 paling suka. Sediakan payung sebelum hujan. Sebelum kita makan kita mesti fikir. Kita mesti control (kawal). Bersenam...” (SU8).

“...mesej 1 paling suka kerana simple ringkas dan mudah difahami...” (KN4)

3.2.4 Pendapat responden terhadap mesej kesihatan Kementerian Kesihatan Malaysia (KKM)

Kementerian Kesihatan Malaysia menghasilkan pelbagai mesej kesihatan dalam usaha untuk mengubah tingkah laku kesihatan masyarakat. Hasil daripada PKB, kebanyakan informan menyatakan mesej kesihatan yang dikeluarkan oleh KKM masih tidak mencukupi untuk memberi kesedaran kepada masyarakat dalam mengamalkan cara hidup sihat.

“Memang tak cukup memang tak cukup I think lot more way, dia boleh.. u know I think quite..frequent..apa ni advertisement ka updates from KKM..something more realistic diabetic..diabetic tak cukup...u must show...u know...photos...take....list take..u know...people dying because of higher of sugar know maybe like macam small mini drama diabetic if not control what will happen..”(BK1)

3.2.5 Kesan Mesej Kesihatan Kementerian Kesihatan Malaysia (KKM)

Informan turut menyatakan bahawa mesej yang disampaikan oleh KKM tidak cukup berkesan. Ini disebabkan kebanyakan mesej yang disampaikan oleh KKM menumpukan kepada mesej yang menakutkan dan tidak mendidik masyarakat. Mesej seperti ini hanya akan memberi kesan dalam jangka pendek dan bukan dalam jangka masa yang panjang. Mereka juga berpendapat mesej yang disampaikan terlalu umum dan menyukarkan orang ramai untuk memahami mesej yang disampaikan.

“...Saya rasa tak berkesan....” (CJ1)

“...tapi macam saya tengok iklan tu, macam saya rasa tiada perasaan untuk ini (berubah)...cuma sekadar info (QL3)

Namun begitu, terdapat juga beberapa informan bersetuju pesakit diabetes lebih mudah menerima mesej yang berkaitan diabetes yang disampaikan oleh KKM. Ini disebabkan pesakit telah melalui pengalaman sebagai pesakit dan merasai kesusahan dan kesukaran sebagai pesakit diabetes dalam melalui kehidupan seharian. Ini akan memudahkan mereka untuk menerima mesej untuk yang berkaitan dengan mereka.

“ kita tengok pastu dia ada gambar-gambar kita rasa takut jugak penyakit macam kencing manis dia potong kaki...” (KN2)

“...memang berkesan (suara ramai)”(NR2)

“...memberi kesedaran terhadap kesan yang akan dihadapi apabila tidak menjaga kesihatan...” (CJ2)

“...ada kesan...tapi perlu adakan kempen kerana rakyat kurang kesedaran...”(KS6)

3.2.6 Jenis Mesej Kesihatan untuk perubahan tingkah laku

Kebanyakan informan bersetuju mesej yang memberi fakta dan panduan sesuai untuk perubahan tingkah laku. Fakta dan panduan yang disampaikan akan meningkatkan lagi pengetahuan mereka bagaimana untuk mengawal penyakit tersebut. Fakta yang betul dan tepat ini jika diulang akan menjadi ingatan kepada informan sepanjang masa.

“...Iya. Saya rasa kalau media atau dalam tv semua, kasi dengarlah semua rakyat bahawa, banyak kalilah kasi infolah yang macam itu mencegah kesihatan (mencegah penyakit), apa yang boleh kita buat untuk mencegah dia supaya tidak merebaklah...”(QL4)

“Saya rasa Alhamdulillah bila tengok ada rasa nak berubah la, dia di tv saya rasa boleh kut sebab ia berulang, elok lah kita mungkin beringat dan nak ikut bagi berubah...”(KN1)

Fakta yang tepat bukan sahaja dapat meningkatkan pengetahuan mereka tetapi juga dapat berkongsi maklumat dalam kalangan ahli keluarga dan rakan-rakan. Tidak semua ahli masyarakat berpeluang untuk mendengar ceramah atau mengikuti kempen-kempen kesihatan yang diadakan oleh pejabat kesihatan.

“...Masyarakat tu bukan tak faham. Dia faham tapi dia tak mau tak boleh ikut, dia sendiri ada ceramah ceramah kesihatan dia dengaq tapi balik tak boleh ikut emm dia kata makan nasi sepinggan je kita orang kampung tak kenyang. Jadi kita bantai dua pinggan tiga pinggan; sat lagi nak pi bendang kebun ke tak

larat nanti jadi tu la tak boleh amalkan. Faham dia faham tapi kita tak boleh nak amalkan makan sikit tak kenyang; pastu kita jadi tabiat sedangkan kami orang kampung kita biasa makan banyak sikit ...”(KN2)

4. PERBINCANGAN

Objektif kajian ini adalah mengenal pasti kerangka mesej yang dapat meninggalkan kesan dalam kalangan pesakit diabetes dari segi pengetahuan, kepercayaan, keberkesanan dan mencetuskan niat untuk berubah berdasarkan Teori Prospek. Hasil kajian mendapati kebanyakan responden bersetuju Kerangka Mesej Kesihatan Positif lebih berkesan bagi meningkatkan pengetahuan, kepercayaan, keberkesanan serta mencetuskan niat untuk berubah. Kerangka mesej positif dapat membantu mereka untuk merangsang mengamalkan gaya hidup yang sihat seperti pengambilan makanan berkhasiat dan melakukan aktiviti fizikal. Ini disebabkan responden merupakan pesakit diabetes yang sering mendapatkan pemeriksaan dan rawatan di klinik-klinik dan sering terdedah dengan maklumat-maklumat serta nasihat-nasihat dari anggota kesihatan berkaitan dengan amalan penjagaan kesihatan yang dapat mereka amalkan dalam kehidupan mereka seharian.

Kerangka mesej yang menggunakan bahasa yang mudah dan struktur ayat yang pendek dan pengalaman responden itu sendiri akan memudahkan responden untuk memahami mesej tersebut. Apabila mereka mengarahkan peserta untuk mengaitkan mesej kepada pengalaman mereka sendiri, hujah-hujah yang kuat menjana sikap responden yang lebih baik daripada hujah-hujah yang lemah, ini menunjukkan tahap penghuraian mesej yang lebih besar (Petty & John 1981). Penggunaan kata nama pertama “saya” akan merujuk kepada diri mereka sendiri dan ini akan memudahkan lagi proses kefahaman tentang mesej yang mereka terima. Permintaan dalaman sebagai tindakbalas psikologi atau psikologikal penerima mesej ini kepada rangsangan mesej yang menghasilkan arahan yang

tersendiri. Bentuk bahasa dan pilihan perkataan boleh mendorong seseorang itu untuk lebih memahami kerana mengurangkan jarak psikologi antara mesej dan perasaan (Parrot 1995).

Maklumat kesihatan lebih berkesan jika kandungan mesej dapat diaplikasi dalam kehidupan responden (Bull et al. 2001). Sesetengah kandungan mesej mungkin membolehkan responden untuk menukar tabiat kepada proses yang aktif sama ada dalaman dan luaran (Reis & Sutton 1991; Parrot 1995). Kajian oleh Jessie et al. (2010), mendapati majoriti responden memilih kerangka mesej positif, kerana ianya ringkas dalam memberi nasihat untuk makan buah-buahan dan sayur-sayuran. Mesej positif lebih berkesan bila dalam situasi memujuk (Patricia et al. 2001). Orang yang menumpukan kepada memilih risiko, mereka lebih fokus kepada mesej yang positif (White 2000). Seseorang individu gagal untuk mengamalkan tingkah laku pencegahan selalunya bukan disebabkan oleh kurang pengetahuan tetapi disebabkan oleh kekurangan aspek motivasi (Soames & Hatfield 2000). Mesej yang tidak dapat menimbulkan dorongan yang kuat tidak akan memberi kesan yang mendalam (Leventhal & Tremble 1968). Apabila proses motivasi tidak cukup, audien tidak akan menghuraikan mesej tersebut (Meyers-Levy & Peracchio 1996).

Walau bagaimanapun, mesej negatif juga sesuai digunakan kepada kumpulan sasar yang tertentu untuk mengamalkan tingkah laku yang tertentu. Kerangka Mesej Negatif boleh menjadi alat yang sesuai asalkan audien dapat mengamalkan tingkah laku yang dapat mengurangkan tingkah laku berisiko. Mesej akan lebih berkesan sekiranya sesuatu mesej itu membolehkan orang ramai menilai, menyalur dan menginterpretasikan maklumat berdasarkan kepada kerangka konseptual yang telah disusun.

Menurut Lee dan Gu (2009), mesej negatif lebih berkesan untuk meningkatkan niat penjagaan diri dalam kalangan pesakit diabetes. Kerangka mesej akan memberi kesan kepada seseorang individu itu bergantung kepada keprihatinan mereka kepada masa depan mereka (Alan et al. 1994). Orang ramai gagal mengambil

tindakan pencegahan kesihatan mereka disebabkan kegagalan mereka untuk melihat risiko kesihatan yang berpotensi yang akan muncul pada masa depan (Kees 2011). Satia et al. (2010) berpendapat kerangka mesej positif dan mesej yang pendek lebih menonjol untuk memotivasikan kebanyakan responden.

Dari sudut keberkesanan mesej kesihatan yang dihasilkan oleh Kementerian Kesihatan Malaysia, kebanyakan responden berpendapat ia tidak begitu berkesan. Ini disebabkan kebanyakan mesej yang ditonjolkan lebih bersifat menakutkan dan ugutan kepada audien. Audien tidak dapat memahami mesej yang disampaikan kepada mereka terutamanya tentang kepentingan mengamalkan tingkah laku yang disarankan dan kesannya jika tidak mengamalkan tingkah laku tersebut. Mesej yang menakutkan akan menimbulkan emosi yang tidak dijangka seperti kebimbangan, tekanan, terkejut, berteka-teki, kesedihan, rasa bersalah, rasa meluat, mati pucuk, ketegangan dan marah yang akan membawa kepada perasaan ketidakupayaan dan kekurangan kawalan sepanjang hayat bagi seseorang individu (Dillard et.al 1996; Kirscht et al. 1973; Leventhal & Trembley 1986). Penggunaan kesan yang menakutkan yang terlalu tinggi mungkin berkesan kepada individu yang terlibat, manakala kesan menakutkan yang rendah sesuai kepada individu yang tidak terlibat (Keller & Block 1996). Menurut Sutton (1982) penggunaan mesej yang menakutkan secara sederhana akan meningkatkan keinginan, manakala kesan rendah dan terlalu tinggi tidak meningkatkan keinginan.

Kebanyakan strategi komunikasi yang digunakan bertujuan untuk menyampaikan maklumat ringkas bagi memberitahu audiens, menukar sikap atau mengajar kemahiran yang kompleks, dan mempengaruhi masyarakat untuk mengubah tingkah laku (Tones & Tilford 2001). Walau tujuan apa sekalipun, mesej perlu sampai kepada kumpulan sasar, menarik perhatian, dapat diinterpretasi dan difahami (Mcguire 2001).

Kesesuaian mesej dengan audien juga memainkan peranan yang penting bagi mengubah tingkah laku mereka. Latar belakang geografi serta sosioekonomi yang berbeza merupakan antara faktor yang penting dalam menyampaikan mesej yang sesuai kepada audien. Bagi penduduk di pedalaman misalnya, makanan utama mereka berasaskan nasi manakala di kawasan bandar mungkin lebih kepada makanan segera. Bagi menyeragamkan mesej ini memerlukan kefahaman yang lebih mendalam tentang tingkah laku serta amalan masyarakat. Kajian mendapati kedua-dua perbezaan faktor bagi setiap individu (pendekatan/mengelakkan motivasi) dan faktor keadaan (kerangka mesej) yang berinteraksi dalam konteks mesej kesihatan tertentu untuk meningkatkan keupayaan diri, niat dan perubahan tingkah laku (Sherman et al. 2006).

Penyampaian mesej kesihatan memerlukan saluran media yang dapat memberi liputan yang luas sama ada di bandar mahupun luar bandar. Kepelbagaian kaum dan juga bahasa merupakan salah satu cabaran yang perlu diatasi bagi memastikan mesej dapat disalurkan dengan lebih berkesan. Hasil kajian mendapati televisyen merupakan saluran yang menjadi pilihan kepada responden untuk menyampaikan mesej kesihatan berbanding dengan media lain.

Dalam bidang kesihatan, di kawasan bandar dan luar bandar, televisyen telah menjadi kuasa mendidik untuk tingkah laku kesihatan (Ghanta 2012). Di Malaysia, kajian menunjukkan kebanyakan mahasiswa menggemari semua peralatan elektronik seperti televisyen dan radio (Abdullah & Mawwadah 2010). Jumlah penonton televisyen yang tinggi akan menyebabkan persepsi dan kepercayaan yang dipengaruhi oleh imej dan mesej yang dibawa oleh televisyen (Samsudin & Latiffah 2000). Gerbner (2007) memperkatakan tentang kekuatan pengaruh televisyen yang digelar sebagai mitologi mempunyai hubungan organik yang kuat, diulangi setiap hari dan dari itu tentunya mempengaruhi konsepsi realiti melalui kesan penyuburan.

5. LIMITASI KAJIAN

Kajian hanya melibatkan pesakit diabetes di beberapa buah klinik dan hospital yang terpilih dan tidak mewakili keseluruhan pesakit diabetes di seluruh negara.

6. KESIMPULAN

Hasil penemuan kajian mendapati mesej positif lebih diterima kerana ia dapat meningkatkan motivasi, kesedaran, pengetahuan serta amalan dalam aspek penjagaan kesihatan bagi memastikan responden dapat menikmati kehidupan yang lebih berkualiti. Mesej kesihatan yang ringkas dan mudah difahami akan memberi impak yang lebih berkesan kepada responden dalam mengamalkan cara hidup sihat. Selain itu saluran untuk menyampaikan maklumat turut memainkan peranan yang penting agar mesej yang ingin disampaikan akan terserap ke dalam diri dan minda si penerima. Meskipun pembentukan dan penghantaran mesej nampak senang, ia menjadi satu kedukacitaan bila mana mesej yang disalurkan itu tidak menimbulkan sebarang manfaat di peringkat penerima. Sebagai anggota kesihatan, setiap peringkat dalam penyediaan mesej kesihatan mesti dilihat dan ditangani dengan sebaik-baiknya agar mesej-mesej kesihatan yang dihasilkan mampu mempengaruhi khalayak untuk perubahan tingkah laku.

7. CADANGAN

Kepentingan dalam merangka mesej kesihatan tidak dapat dinafikan kerana jika terdapat kesilapan dalam mengolah mesej ia boleh menimbulkan ketidakfahaman terhadap mesej berkenaan. Dalam kajian ini, kerangka mesej kesihatan positif menjadi pilihan dalam kalangan pesakit diabetes. Bagi penyelidikan yang akan datang, dicadangkan:

- a. Kumpulan sasar terdiri daripada pesakit yang berlainan penyakit.
- b. Kumpulan sasar terdiri daripada individu yang tidak berpenyakit.
- c. Menggunakan kerangka mesej isu-isu kesihatan yang lain.
- d. Dijalankan dengan menggunakan kaedah kuantitatif.
- e. Menggunakan tema-tema yang lain yang mungkin bersesuaian.

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LAMPIRAN A

SOALAN KAJI SELIDIK SEMI-STRUKTUR

Responden akan diberikan kerangka mesej kesihatan Positif (mesej 1) dan kerangka mesej kesihatan negatif (mesej 2)

SOALAN 1:

- a. Adakah anda faham dengan mesej 1?
- b. Boleh anda jelaskan **MAKSUD** mesej tersebut?

SOALAN 2:

- a. Adakah anda faham dengan mesej 2?
- b. Boleh anda jelaskan **MAKSUD** mesej tersebut?

SOALAN 3: Pada pendapat anda, di antara mesej 1 dan mesej 2, mesej yang mana satukah yang anda paling suka.

SOALAN 4: Jika anda diberi pilihan untuk mendengar mesej, mesej yang mana satukah pilihan anda? Kenapa?

SOALAN 5: Apakah pendapat anda terhadap mesej kesihatan yang disampaikan oleh KKM?

SOALAN 6: Adakah mesej kesihatan yang dipaparkan oleh KKM memberi kesan kepada anda?

SOALAN 7: Pada pendapat anda, apakah jenis mesej (maklumat) kesihatan yang boleh mengubah sikap anda?

SOALAN 8: Apakah cadangan tuan/puan bagi memantapkan lagi mesej kesihatan yang disampaikan oleh KKM bagi mengatasi masalah kegemukan dalam kalangan masyarakat?

SOALAN 9: Apakah jenis saluran media yang dapat menyampaikan mesej kesihatan kepada orang ramai dengan berkesan?

SENARAI SINGKATAN

- Q - Sabah
 - L (Luyang)
 - M (Membakut)
- S - Sarawak
 - U (Umum)
 - S (Serian)
- C - Pahang
 - J (Jaya Gading)
- N - Negeri Sembilan
 - R (Rasah)
- K - Kedah
 - N (Naka)
 - B (Bandar)
- B - Selangor
 - K (Klang)
 - A (Ampang)

