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A Pilot E-Bug Programme In Bahasa Melayu in Malaysia : A Community-Based Assessment on the Knowledge of Hygiene and Transmission of Diseases Among Primary School Children

Research Article

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Abstract

Background: Since the emergence of COVID-19 pandemic in 2019, public health awareness and behavioural changes are vital to stop the disease transmission across the globe. However, not all communities have the same level of health literacy due to lack of formal education on basic hygiene. Hence, the UK Health Security Agency has introduced the e-bug programme to distribute knowledge covering microorganisms, hygiene, disease transmission and their preventive measure.

Objective. This study aimed to determine the effectiveness of the e-bug programme in educating primary school children on different types of hygiene; investigate the effectiveness of e-bug based on their age and gender and association between the perceived environmental quality of life (QoL) and children's hygiene knowledge.

Method. A pilot study was done amongst 14 children aged 7-12 years from Project Perumahan Rakyat (PPR) Sri Pantai, Malaysia. Online self-administered questionnaire was used for data collection, including personal information, pre and post-interventional of hygiene score and environmental QoL score. Effectiveness of e-bug, association between effectiveness and demographic factor and correlation between QoL and hygiene knowledge was analysed by paired sample t-test, independent t-test and Bivariate Pearson correlation test, respectively.

Results. A significant improvement was found in hand hygiene ($p=0.019$) and overall score ($p=0.048$) by comparing the pre and post score after e-bug intervention.

Conclusion. The e-bug programme has generally improved the knowledge of hygiene among primary school children, particularly hand hygiene. Hence, we recommend the e-bug programme to be implemented in primary schools in Malaysia to promote better quality of health.

Keywords

e-bug, effectiveness, children, hygiene knowledge, hand hygiene, respiratory hygiene, oral hygiene, food hygiene

Introduction

Infectious disease constitutes the most critical issue in the world especially after the emergence of the COVID-19 pandemic in 2019. Respiratory infections are a leading cause of illness, morbidity, and mortality worldwide. It has been estimated to contribute to more than four million deaths per year internationally, with influenza infections accounting for an additional 250,000 to 500,000 deaths per year [1]. Epidemiological studies suggest that in a typical epidemic, influenza affects school children first due to lower immunity and a large number of contacts from overcrowding at schools [2]. According to WHO, diarrhoeal disease is the second leading cause of morbidity amongst children below 5 years old, with a global prevalence of 1.7 billion cases of childhood diarrhoeal disease every year (WHO, 2017). In Malaysia, the incident rate of food poisoning has been accounted for 50.9% in 2019 with mortality rate of 0.03% (MOH, 2019). According to studies, most of the food poisoning cases in Malaysia are caused by poor and insanitary food handling procedures [3].

In a study conducted by [4-8], 75.3% out of the 312 children aged between 7 to 11 years old from two public schools in Malaysia brush their teeth twice or more in a day and 77.9% of the children do not practice tooth flossing. A study conducted by [9] showed that 84.4% out of the 32 children aged 3 to 5 years old brush their teeth at least once a day while 59.4% brush their teeth twice daily which is strongly recommended by the Ministry of Health Malaysia [10]. Revealed a staggering 98.7% of the 169 children from an urban slum in Indonesia were contaminated by Escherichia coli (E. coli), which can result in severe food-borne disease. Moreover, a study conducted by [11,12] also revealed that only 63.2% among 435 pre-school children are able to practice proper hand hygiene techniques.

The introduction of the concept of chain of infection has significantly improved the basic approaches in preventive measure and disease control. There are different types of hygiene, namely hand, respiratory, oral and food hygiene. E-Bug, an educational project led by the UK Health Security Agency in 2006 [13,14], in collaboration with a consortium of 28 international partner countries, aimed to develop and distribute knowledge covering microbiology, hygiene and the spread, treatment and prevention of the disease. This is a virtual and cost-free educational platform, indicated to audiences across the globe, at junior and senior school level. It provides a comprehensive and calibrated educational system based on age and educational levels, namely early years, Key Stage 1, 2, 3 and 4 [14]. Students aged between 3-5 years old are introduced to positive behaviour of hand washing, respiratory and oral hygiene. For older age groups, students are further introduced with the concept of beneficial and harmful microbes, vaccination and antibiotics resistance [14].

In the context of health literacy, the higher age groups are proven to have better health knowledge and significant gender differences favouring females in most areas of health knowledge is also found [15,16]. Nevertheless, deficit health literacy resulting from poor health education is a persisting issue which poses challenges to public health, especially in developing countries [12,17,18] Poor QoL such as poverty is also found to be the impeding factor of hygiene knowledge [19]. Hence, to avoid health disparity, e-bug is widely implemented to improve the health knowledge of the public. Positive results are obtained after the implementation of e-bug, which is shown in both studies, whereby significant improvement is accounted for in various sections of health knowledge amongst the students after watching the educational graphical video from the e-bug programme [20,21].

Despite the wide implementation of e-bug in Europe, limited research on e-bug is done in Malaysia. This could be attributed to the utilization of the English language as the language of teaching. Most of the schools in Malaysia use Bahasa Malaysia as their standard language for all educational activities. Furthermore, populations in rural areas, who have poor accessibility to the internet, are unable to benefit from e-bug. These problems would result in reduced response rate which would affect the results of effectiveness of e-bug towards primary school students in Malaysia. Hence the aim of this study is to determine the effectiveness of the e-bug programmed conducted in the national language in improving knowledge amongst primary school children in Malaysia.

The main objective of conducting this pilot study is to determine the effectiveness of the e-bug project in educating primary school children of the B40 community in Malaysia on different types of hygiene by using Bahasa Melayu as the medium of instruction. Furthermore, differences in age and gender in the effectiveness of e-Bug in primary school children in Malaysia on different types of hygiene is investigated as well. Next, this study also aims to determine the association between knowledge of primary school children on different types of hygiene (pre score) and perceived environment QoL of their parents.

Methodology

Study Design and Target Sample

This is a pilot study started on the 18th January 2022. Data collection of this study was done by using two online self-administered questionnaires provided from e-bug and WHOQOL-BREF. Target population of this study was the children aged 7-12 of the B40 community

from PPR Sri Pantai and participants were selected using convenience sampling. Participants of this study consisted of 14 children, whereby there were 4 male students and 10 female students. Participants were further divided into two age groups, 7-9 years old and 10-12 years old based on the Malaysian schooling system.

Study Instrument

4 educational videos and 2 questionnaires were used in this study. Google form was used to generate the self-administered questionnaires. 4 educational videos are obtained from the e-bug website [22], which includes knowledge on hand, respiratory, oral and food hygiene respectively. The videos and questionnaires used in this study were translated to Bahasa Melayu and distributed using WhatsApp with assistance from the community leader of PPR Sri Pantai.

First questionnaire was designed based on the e-bug quizzes [23]. The language was then translated into Bahasa Melayu. There were 6 sections in this questionnaire and a total of 24 questions were included. Maximum of 38 marks were allocated for section 3, 4, 5 and 6.

- Section 1: Introduction, aim of study, consent from participants' parents for data collection and question regarding time when questionnaire is done (before or after watching educational video).
- Section 2: Personal information (Participant's name and age, parents' phone number, address and gender).
- Section 3: 6 questions regarding hand hygiene;
- Section 4: 6 questions regarding respiratory hygiene;
- Section 5: 6 questions regarding oral hygiene;
- Section 6: 6 questions regarding food hygiene.

Second questionnaire was designed based on WHOQOL-BREF (WHO, 1996). There are 3 sections in this questionnaire and a total of 26 questions are included.

- Section 1: Introduction, aim of study, consent from participants' parents for data collection.
- Section 2: Personal information (Participant's name, parents' phone number, address, gender and age of participants);
- Section 3: 26 questions regarding the QOL.

Environmental QOL

Environmental QOL was assessed by the questions under Domain 4 of WHOQOL-BREF, which is QOL.8, QOL.9, QOL.12, QOL.13, QOL.14, QOL.23, QOL.24, QOL.25. Scores

were allocated for each choice ranging from 1 to 5. Scores recorded were then calculated using the formula QOL.8 + QOL.9 + QOL.12 + QOL.13 + QOL.14 + QOL.23 + QOL.24 + QOL.25

Educational Intervention Module

Participants were instructed to complete the quizzes available in the first questionnaire before watching the video. Interventional videos were forwarded to the participants via Whatsapp upon completion of the first questionnaire. After watching the video, participants were instructed to complete the same questionnaire. After completing the first questionnaire as instructed, participants were then required to complete the second questionnaire for the QOL scores.

Statistical Analysis

SPSS 28th version was used for analysis of the data collected from the questionnaires. Paired sample t-test and independent t-test were used in this study. Frequency (N) and percentage (%) were used to describe categorical data. Median and standard deviation were used for pre and post interventional hygiene score data. Paired sample t-test was done to compare between the pre and post interventional scores. Independent sample t-test was done to analyse differences in variables (age group and gender of the children) with the pre and post-interventional hygiene score. Bivariate Pearson correlation test was used for analysis of pre-interventional hygiene score perceived environment QoL. Confidence interval(CI) of 95% was used and when p-value is lower or equal to 0.05, the data was considered as significant.

Ethics Statement

Prior to completing the questionnaire, written consent was obtained. Participants were informed that participation in this study was completely voluntary and that they might withdraw at any moment. This project has been approved by the Taylor University's Human Ethics Committee.(HEC APPROVAL CODE: HEC2021/135)

Results

The study comprised of 4 male students (28.6%) and 10 female students (71.4%) from PPR Sri Pantai. Out of the 14 participants, 8 students fall in the age group of 7-9 years old and the rest are 10-12 years old. (Table 1) illustrates the frequency distribution of different socio-demographic.

The association between knowledge on hygiene of children and their parent's perceived environmental QoL. As shown in (Table 2), there was no evidence showing that perceived environmental QoL of parents is associated with children's hygiene. (p=0.315)

The difference in pre and post scores were not in a normal distributed manner. Hence, the non-parametric Wilcoxon rank test was used in the comparison. The results are shown in (Table 3).

As shown in Table 3, there was a significant improvement in hand hygiene (p=0.019), but not in the other types of hygiene. The total score is improved significantly by 4 points (p=0.048). The difference in score was compared between males and females, and two age groups, using non parametric, Mann-Whitney U test. The results are shown in Table 4 and Table 5, respectively.

As shown in Table 4, there is no significant difference found between males and females. Similar to gender, both age groups do not have a significant difference in improvement after intervention.

Discussion

One of the objectives of our study is to find out whether there is an association between hygiene knowledge of primary school children in a B40 community in Malaysia before intervention and their parents' perceived quality of life. Our result in (Table 2) shows that there is a weak negative correlation between hygiene knowledge of primary school children in a B40 community in Malaysia before intervention and their parents' perceived quality of life, but the result is not statistically significant as the p-value is greater than 0.05.

Therefore, hygiene knowledge of primary school children in a B40 community in Malaysia before intervention is not considered to be significantly associated with their parents' perceived quality of life. Our result that is not statistically significant may be due to our small sample size of 14 participants that is not representative of the total population in this PPR community. Another reason that may explain this would be the environmental domain of WHOQOL-BREF questionnaire that we were using to assess the parents' perceived quality of life does not accurately reflect the parents' perceived quality of life as some of the questions asked in the environmental domain of WHOQOL-BREF questionnaire were not related to the children's hygiene level and only the total score of the environmental domain from the questionnaire was looked at when assessing the parents' perceived quality of life.

(Table 3) demonstrates comparison of pre and post hygiene score after e-bug intervention amongst primary school students. The difference between pre and post scores did not follow a normal distribution. As a result, a non-parametric Wilcoxon Rank test was used for comparison. The overall hygiene levels showed an improvement, and the total score was improved by 4 points (p=0.048) and

Table 1: Frequency distribution of participants according to social demographic

Socio-demographic factors	Frequency (N)	Percentage (%)	TOTAL
Gender			
Male	4	28.6	14
Female	10	71.4	
Age group			
7-9 years old	8	57.1	14
10-12 years old	6	42.9	

Correlation was performed by bivariate Pearson correlation.
*Indicates p <0.05 was considered statistically significant.

Table 2: Association between knowledge of primary school children on hygiene and perceived environment QoL of their parents.

tQuality of Life	Pre- total score	p-value
Environmental QoL	-0.29	0.32

Comparison was performed using paired sample t-test.
Values in the table are Median (minimum and maximum)
*Indicates p <0.05 was considered statistically significant.

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Table 3: Comparison of pre and post hygiene score after e-bug intervention

Type of hygiene	Pre-score	Post-score	Difference score	p-value
Hand	8.0 (3,9)	8.0 (6,9)	1.0 (-1,5)	**0.019***
Respiratory	7.0 (7,8)	7.5(5,8)	<1.0 (-3,1)	1
Oral	7.0 (3,9)	7.0(1,9)	0.5 (-5,4)	0.375
Food	9.0 (4,12)	9.0 (6,12)	1.0 (-6, 5)	0.361
Total	30.0 (22,34)	32.0 (25,37)	4.0 (-6, 7)	**0.048***

Comparison was performed using paired sample t-test.

Values in the table are Median (minimum and maximum)

*Indicates p <0.05 was considered statistically significant.

Table 4: Comparison of differences of score in male and female

Type of hygiene	Pre-score	Post-score	Difference score	p-value
Hand	8.0 (3,9)	8.0 (6,9)	1.0 (-1,5)	**0.019***
Respiratory	7.0 (7,8)	7.5(5,8)	<1.0 (-3,1)	1
Oral	7.0 (3,9)	7.0(1,9)	0.5 (-5,4)	0.375
Food	9.0 (4,12)	9.0 (6,12)	1.0 (-6, 5)	0.361
Total	30.0 (22,34)	32.0 (25,37)	4.0 (-6, 7)	**0.048***

Comparison was analysed by independent t-test
Values in the table are Median (minimum and maximum)
*Indicates p <0.05 was considered statistically significant.

Table 5: Comparison of differences of score in different age groups

Type of hygiene	Pre-score	Post-score	Difference score	p-value
Hand	8.0 (3,9)	8.0 (6,9)	1.0 (-1,5)	**0.019***
Respiratory	7.0 (7,8)	7.5(5,8)	<1.0 (-3,1)	1
Oral	7.0 (3,9)	7.0(1,9)	0.5 (-5,4)	0.375
Food	9.0 (4,12)	9.0 (6,12)	1.0 (-6, 5)	0.361
Total	30.0 (22,34)	32.0 (25,37)	4.0 (-6, 7)	**0.048***

Comparison was performed by independent t-test

Values in the table are Median (minimum and maximum)

*Indicates p <0.05 was considered statistically significant.

thus, indicating a statistically significant result as the p value was less than 0.05. This is also backed by the research in India where 327 students from nine different primary schools participated. Students completed two identical questionnaires before and after being exposed to e-bug's resources. The results showed a statistically significant improvement in the post-intervention scores in 7 out of the 10 given questions [15]. Moving towards the individual types of hygiene examined in this study, the hand hygiene was able to display a significant value difference between pre and post scores (p=0.019). Though on the other hand respiratory, oral, and food hygiene had p values which were not statistically significant, (p=1.0), (p=0.375) and (p=0.361) respectively. In terms of overall significance, the data obtained indicates that implementation of the e-bug programme leads to a positive impact on students' knowledge on hygiene. However, exposure of e-bug's resources should be introduced to a wider audience in order to achieve a more conclusive result as opposed to the smaller sample size used in this study.

(Table 4) examines the association of post intervention scores amongst males and females. The results demonstrate that there is no significant correlation between gender and hygiene score/levels as the difference of score amongst both genders post intervention was minimal and the p value deduced was more than 0.05. Individual hygiene scores on hand, oral, respiratory, and food indicate that the interventional videos have no effect on one gender specifically and both genders have similar levels of knowledge on hygiene. Even though the differences in p-value were not insignificant, the median values show that females had higher overall scores after watching the video than males. Food hygiene scores improved the most in males, but respiratory hygiene scores declined. This is in line with the findings of a recent study done in the

UK where girls demonstrated an 18% improvement and boys demonstrated an 11% improvement only after being exposed to the lesson plan [20]. As our study used a sample size of only 14 primary school students, the effectiveness of the interventional videos based on gender may not be reflected accurately in this study. This could be corrected with a larger sample size for a better understanding.

Our results in Table 5 show that there is no significant difference between the two age groups' total score and between the two age groups' scores for each type of hygiene. School children from the younger age group (7-9 years old) showed greater improvement in their total score as well as their score for hand and food hygiene after watching the e-bug videos as compared to school children from the older age group (10-12 years old). This is consistent with the findings of a study conducted by [21] using before and after students' knowledge questionnaires to evaluate the participants' knowledge change after completing the e-bug activities as they found that knowledge change was greater in students from the younger age group. The students from the younger age group having a greater knowledge change after completing the e-bug activities as seen in our study and the study conducted by [22] could be due to the students having a lower baseline knowledge before intervention. School children from the younger age group in our study showed improvement in their total scores and the scores for each type of hygiene whereas school children from the older age group showed deterioration in knowledge on food hygiene after intervention. This indicates a greater impact of the e-bug project on school children from the younger age group and this finding is supported by a study conducted by [23] that recruited junior students (9-11 years) and senior students (12-15 years) from 3 different countries (England, France and Czech Republic). The study showed that knowledge after teaching using the e-bug programme significantly improved in students from the younger age group and the knowledge was retained 6 weeks after teaching. In students from the older age group, knowledge after teaching also improved but the knowledge showed deterioration 6 weeks after teaching. The deterioration in knowledge on food hygiene after intervention as seen in school children from the older age group in our study could have been due to their parents assisting or guiding them in answering the knowledge questionnaire before intervention, resulting in an inaccurately high pre-intervention hand hygiene score. Therefore, further studies with a larger sample size and studies conducted face-to-face to monitor the respondents when answering the questionnaires are needed to reach a more conclusive result.

Strengths

There are a few strengths that were discovered in our research. The language, Bahasa Melayu, that was used in our questionnaires and videos, played a major role in our research. This is because Bahasa Melayu is the official language of Malaysia and is widely spoken by all, especially those from the PPR Sri Pantai community. Therefore, the participants were able to understand the questionnaire and videos clearly. The questions and videos were appropriate for the age of the participants. On top of that, the duration of the videos was fair for the children's attention span and the animations were captivating, based on the positive feedback received.

Limitations

Over the course of our research, a few limitations were encountered. One of the major restraints was the sample size. As a consequence of the pandemic, instead of carrying out the survey in the community, there was no other option than to conduct it online. The downside of online questionnaires is that the responses are time-consuming. There was a lack of responses due to the time constraint on the research. Hence, only a small sample size was obtained, which made it more difficult to achieve significant results. As we were not able to supervise when the participants answered the survey, the genuinity of self-administration is always a pondering question as to whether it could be subject to biases. Moreover, the number of pre and post responses received was unequal. This could be due to the lack of understanding of the instructions given to the participants. before taking part in the survey. Furthermore, there is a lack of prior research studies on e-bug and the effectiveness of e-bug on the knowledge of hygiene among primary school children in Malaysia. Therefore, there wasn't enough literature in Malaysia to refer to but his makes it an advantage for this programme to be carried out in Malaysia.

Recommendation

To further the research of e-bug in the future, a bigger sample size should be targeted. This is because a greater diversity of races would be included in the survey, and this in turn would allow researchers to obtain significant results. Besides, the survey should be carried out face-to-face, as this will allow the researchers and participants to be more interactive. With physical sessions, the researchers will be able to supervise the status of pre and post-watching videos questionnaires. Moreover, biasness can be avoided as researchers monitor participants' genuity in answering the questionnaires.

Conclusion

Based on the results of this pilot study, the project of conducting the e-bug programme in the B40 community among primary school children to improve their

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knowledge of hygiene was a success. Overall, the hygiene levels showed significant improvement, especially hand hygiene, after watching the educational graphical video on different types of hygiene in Bahasa Melayu. There was a greater impact of the e-bug project on the younger age group (7-9 years old). This indicates that it is best to implement this programme at a younger age. However, further study is warranted and should be conducted on a wider scale in order to achieve a more conclusive result. By introducing and implementing the e-bug programme in primary schools all over Malaysia, it not only improves health and hygiene knowledge, but it would also help to prevent the spread of infectious diseases by practising and maintaining good hygiene.

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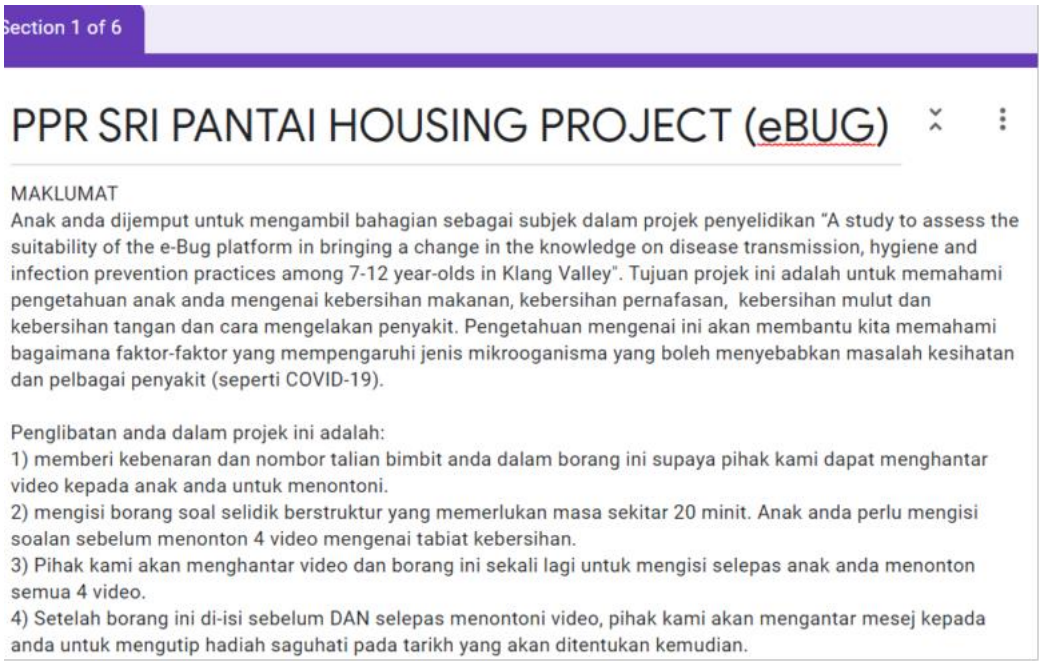
Appendix



Section 1 of 6

PPR SRI PANTAI HOUSING PROJECT (eBUG)

MAKLUMAT
Anak anda dijemput untuk mengambil bahagian sebagai subjek dalam projek penyelidikan "A study to assess the suitability of the e-Bug platform in bringing a change in the knowledge on disease transmission, hygiene and infection prevention practices among 7-12 year-olds in Klang Valley". Tujuan projek ini adalah untuk memahami pengetahuan anak anda mengenai kebersihan makanan, kebersihan pernafasan, kebersihan mulut dan kebersihan tangan dan cara mengelakan penyakit. Pengetahuan mengenai ini akan membantu kita memahami bagaimana faktor-faktor yang mempengaruhi jenis mikrooganisma yang boleh menyebabkan masalah kesihatan dan pelbagai penyakit (seperti COVID-19).

Penglibatan anda dalam projek ini adalah:
1) memberi kebenaran dan nombor talian bimbit anda dalam borang ini supaya pihak kami dapat menghantar video kepada anak anda untuk menontoni.
2) mengisi borang soal selidik berstruktur yang memerlukan masa sekitar 20 minit. Anak anda perlu mengisi soalan sebelum menonton 4 video mengenai tabiat kebersihan.
3) Pihak kami akan menghantar video dan borang ini sekali lagi untuk mengisi selepas anak anda menonton semua 4 video.
4) Setelah borang ini di-isi sebelum DAN selepas menontoni video, pihak kami akan mengantar mesej kepada anda untuk mengutip hadiah saguhati pada tarikh yang akan ditentukan kemudian.

Dalam pelaksanaan tugas dan penerapan prosedur, kami tidak mengharapkan adanya ketidaknyamanan dan / atau ketidakselesaan yang serius bagi peserta. Respons soal selidik, borang persetujuan serta maklumat peribadi anda yang di-isi, protokol penyelidikan dan data yang dianalisis serta fail digital akan disimpan dan salinan dokumen akan disimpan di pejabat Prinsipal Penyiasat dengan kunci dan kunci. Soal selidik akan dicincang degan mesin setelah tidak diperlukan lagi. Semua data digital akan dienkripsi dengan akses yang dilindungi kata laluan untuk memastikan keselamatan dan kerahsiaan data.

Projek penyelidikan akan dijalankan di bawah pengawasan Dr. Priya Madhavan dan Dr Jo Ann Galvan dari Universiti Taylor's yang boleh dihubungi di talian + 603-56295653. Mereka dengan senang hati akan membincangkan sebarang masalah yang mungkin anda miliki mengenai penyertaan dalam projek ini.

Projek ini telah dikaji dan diluluskan oleh Jawatankuasa Etika Manusia Universiti Taylor.

Alamat penuh (Untuk menghantar hadiah bagi anak anda) *

Long answer text

Jantina *

- Lelaki
- Perempuan

Umur anak *

- 7 - 9 tahun
- 10 - 12 tahun

Section 3 of 6

Kebersihan Tangan

Description (optional)

Bagaimanakah anda boleh menyebarkan kuman kepada orang lain ? (Pilih 2) *

- [ ] Melalui sentuhan
- [ ] Melalui pandangan
- [ ] Dengan bercakap melalui telefon
- [ ] Bersin

Mengapakah kita perlu mencuci tangan dengan menggunakan sabun ? *

- ( ) Membunuh kuman
- ( ) Membersihkan lapisan minyak semula jadi yang boleh memerangkap kuman
- ( ) Melembutkan tangan
- ( ) Penggunaan sabun tidak membawa perbezaan

Yang manakah tidak termasuk dalam 6 langkah membasuh tangan? *

- ( ) Tapak tangan
- ( ) Ibu jari
- ( ) Lengan
- ( ) Celah-celah jari

Apakah cara terbaik untuk menghalang penyebaran kuman? *

- ( ) Tidak membuat apa-apa
- ( ) Membasuh tangan menggunakan air
- ( ) Menggunakan gel tangan
- ( ) Membasuh tangan dengan menggunakan air dan sabun

Bilakah kita perlu membasuh tangan ? (Pilih 3) *

- [ ] Selepas membelai haiwan peliharaan
- [ ] Selepas bersin
- [ ] Selepas menonton TV
- [ ] Selepas menggunakan tandas

Selepas menutup bersin menggunakan tangan, kita patut : *

- ( ) Membasuh tangan
- ( ) Mengelap tangan ke baju
- ( ) Mengambil ubat antibiotik
- ( ) Tiada pilihan diatas diperlukan

Section 4 of 6

Kebersihan Pernafasan

Description (optional)

Bagaimanakah anda boleh menyebarkan kuman kepada orang lain ? (Pilih 3) *

- [ ] Sentuhan
- [ ] Ketika tidur
- [ ] Ketika bersin
- [ ] Ketika batuk

Selepas menutup bersin menggunakan tangan, kita patut : *

- ( ) Membasuh tangan
- ( ) Mengelap tangan ke baju
- ( ) Mengambil ubat antibiotik
- ( ) Tiada pilihan diatas diperlukan

Jika anda tidak mempunyai tisu, anda boleh bersin : *

- ( ) Ke tangan
- ( ) Ke lengan baju
- ( ) Ke tempat terbuka
- ( ) Ke atas meja

Cara terbaik untuk menghalang penyebaran kuman ialah: *

- Menggunakan tangan untuk menutup bersin
- Menggunakan tissue untuk menutup bersin
- Mengambil ubat antibiotik
- Minum air

Apa perlu dilakukan kepada tisu selepas bersin? *

- Simpan didalam poket untuk kegunaan seterusnya
- Buang ke dalam tong sampah
- Letak di lengan baju untuk kegunaan seterusnya
- Semua diatas

Apakah akan berlaku sekiranya kita tidak mencuci tangan selepas bersin? *

- Tiada apa apa
- Menyebarkan kuman berbahaya kepada orang lain

Section 5 of 6

Kebersihan Mulut

Description (optional)

Apakah plak gigi? *

- Bahan dalam ubat gigi
- Apabila gigi baru keluar dari gusi
- Kuman yang bertumbuh di gigi
- Bahan yang melindungi gigi

Bagaimanakah cara mencegah pereputan gigi? (Pilih 3) *

- [ ] Kurangkan makan makanan manis
- [ ] Kurang minum air yang manis
- [ ] Senyum setiap hari
- [ ] Gosok gigi

Bilakah waktu yang paling penting untuk gosok gigi? *

- ( ) Sebelum pergi ke sekolah
- ( ) Sebelum tidur
- ( ) Selepas kembali dari sekolah
- ( ) Masa makan

Minuman apa yang tidak baik untuk gigi? (Pilih 2) *

- [ ] Minuman bersoda
- [ ] Air
- [ ] Susu
- [ ] Jus buah-buahan

Berapa kali anda sepatutnya gosok gigi? *

- ( ) 1 kali sehari
- ( ) 2 kali sehari
- ( ) 3 kali sehari
- ( ) Selepas makan setiap kali

Selepas gosok gigi, apakah yang anda harus buat dengan ubat gigi? *

- ( ) Bilas dengan air
- ( ) Meludahkannya dan tidak bilas
- ( ) Menelannya

Section 6 of 6

Kebersihan Makanan

Description (optional)

Mikroorganisma berbahaya boleh didapati di: *

- Daging yang belum masak
- Ikan yang belum masak
- Buah-buahan dan sayur-sayuran
- Susu masam (yoghurt)

Apakah yang patut dibuat dengan daging dan sayur-sayuran di rumah anda? *

- Perlu di simpan pada tempat yang sama dalam peti sejuk.
- Potong menggunakan papan pemotong yang berlainan.
- Potong dengan menggunakan pisau yang sama.
- Simpan di dalam almari yang suam.

Makanan apakah yang ada mikroorganisma yang baik? *

- Keju
- Susu masam (yoghurt)
- Roti
- Daging ayam

Cara yang terbaik untuk menghapuskan mikroorganisma yang berbahaya adalah dengan: *

- Makanan dimasak di permukaanya sahaja
- Makanan dimasak dengan secepat mungkin
- Makanan dimasak dengan sepenuhnya
- Makan makanan yang suam

Penyimpanan makanan di dalam peti sejuk memastikan *

- semua mikroorganisma mati
- semua mikroorganisma disimpan di bawah suhu 4 darjah Celcius
- mikroorganisma tidak membiak
- mikroorganisma tidak mati dan tidak membiak

Bagaimana cara untuk mengabaikan keracunan makanan?

- Menyimpan makanan mentah di dalam peti sejuk sebaik membelinya
- Masak makanan sepenuhnya sebelum makan
- Cuci makanan sebelum makan
- Minum susu masam

WHOQOL-BREF

		Sangat tidak baik	Tidak baik	Sederhana	Baik	Sangat baik
1(G1)	Bagaimanakah anda menilai kualiti kehidupan anda?	1	2	3	4	5

		Sangat tidak berpuas hati	Tidak berpuas hati	Sederhana	Berpuas hati	Sangat Berpuas hati
2(G4)	Setakat manakah anda berpuas hati dengan kesihatan anda?	1	2	3	4	5

Soalan-soalan berikutnya bertanyakan tentang berapa banyakkah anda telah mengalami sesuatu perkara **dalam dua minggu yang lepas.**

		Tiada langsung	Sedikit sahaja	Sederhana	Sangat banyak	Teramat banyak
3(F1.4)	Setakat manakah anda berasa kesakitan (fizikal) menghalang anda dari melakukan apa yang anda perlu lakukan?	1	2	3	4	5
4(F11.3)	Berapa banyakkah rawatan perubatan yang anda perlu untuk berfungsi dalam kehidupan harian anda?	1	2	3	4	5
5(F4.1)	Berapa banyakkah anda menikmati keseronokan dalam hidup anda?	1	2	3	4	5
6(F24.2)	Setakat manakah anda rasa hidup anda bermakna?	1	2	3	4	5

		Tiada langsung	Sedikit sahaja	Sederhana	Sangat	Teramat
7(F5.3)	Berapa baikkah anda dapat memberi tumpuan?	1	2	3	4	5
8(F16.1)	Berapa selamatkah anda rasa dalam kehidupan seharian anda?	1	2	3	4	5
9(F22.1)	Berapa sihatkah persekitaran fizikal anda?	1	2	3	4	5

4(F11.3)	Berapa banyakkah rawatan perubatan yang anda perlu untuk berfungsi dalam kehidupan harian anda?	1	2	3	4	5
5(F4.1)	Berapa banyakkah anda menikmati keseronokan dalam hidup anda?	1	2	3	4	5
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7(F5.3)	Berapa baikkah anda dapat memberi tumpuan?	1	2	3	4	5
8(F16.1)	Berapa selamatkah anda rasa dalam kehidupan seharian anda?	1	2	3	4	5
9(F22.1)	Berapa sihatkah persekitaran fizikal anda?	1	2	3	4	5

Soalan-soalan berikutnya bertanyakan bagaimana sempurnanya anda mengalami atau berupaya melakukan sesuatu perkara dalam dua minggu yang lepas.

		Tiada langsung	Sedikit sahaja	Sederhana	Kebanyak-kannya	Sepenuhnya
10(F2.1)	Adakah anda mempunyai cukup tenaga untuk kehidupan harian anda?	1	2	3	4	5
11(F7.1)	Adakah anda dapat menerima rupa dan bentuk tubuh anda?	1	2	3	4	5
12(F18.1)	Adakah anda mempunyai wang yang cukup untuk memenuhi keperluan anda?	1	2	3	4	5
13(F20.1)	Setakat manakah kemudahan bagi anda untuk mendapatkan maklumat yang diperlukan dalam kehidupan harian?	1	2	3	4	5
14(F21.1)	Setakat manakah anda mendapat peluang untuk aktiviti riadah?	1	2	3	4	5

		Sangat Tidak baik	Tidak baik	Sederhana	Baik	Sangat baik
15(F9.1)	Sebaik manakah keupayaan anda bergerak dari satu tempat ke satu tempat yang lain?	1	2	3	4	5

Soalan-soalan berikut bertanyakan tentang perasaan anda terhadap beberapa aspek tertentu dalam kehidupan anda **sepanjang dua mingggu yang lepas**.

		Sangat tidak berpuas hati	Tidak Berpuas hati	Sederhana	Berpuas hati	Sangat Berpuas hati
16(F3.3)	Adakah anda berpuas hati dengan tidur anda?	1	2	3	4	5
17(F10.3)	Adakah anda berpuas hati dengan keupayaan anda melaksanakan aktiviti kehidupan harian anda?	1	2	3	4	5
18(F12.4)	Adakah anda berpuas hati dengan keupayaan anda bekerja?	1	2	3	4	5
19(F6.3)	Adakah anda berpuas hati dengan diri anda?	1	2	3	4	5
20(F13.3)	Adakah anda berpuas hati dengan perhubungan peribadi anda?	1	2	3	4	5
21(F15.3)	Adakah anda berpuas hati dengan kehidupan seks anda?	1	2	3	4	5
22(F14.4)	Adakah anda berpuas hati dengan sokongan yang anda dapati dari kawan-kawan anda?	1	2	3	4	5
23(F17.3)	Adakah anda berpuas hati dengan keadaan tempat tinggal anda?	1	2	3	4	5
24(F19.3)	Adakah anda berpuas hati dengan kemudahan mendapatkan perkhidmatan kesihatan ?	1	2	3	4	5
25(F23.3)	Adakah anda berpuas hati dengan pengangkutan anda?	1	2	3	4	5

Soalan berikut merujuk kepada kekerapan anda merasa atau mengalami sesuatu emosi **sepanjang dua minggu yang lepas.**

		Tidak pernah	Jarang-jarang	Kerap	Sangat kerap	Sentiasa
26(F8.1)	Berapa kerapkah anda mempunyai perasaan-perasaan negatif, seperti susah hati, kecewa, kegelisahan atau kemurungan?	1	2	3	4	5

Adakah anda mempunyai sebarang maklumbalas tentang soal-jawab ini?