

PERSONAL COVID-19 HYGIENE KIT FOR KIDS (COHYKS)

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ABSTRACT

Children always have bad hygiene. Since most of them never practise proper handwashing, they are at risk of being infected by bacteria, fungi, and viruses, especially Covid-19. Concerning this issue, we develop a Personal COVID-19 Hygiene Kit for Kids, known as 'COHYKS'. COHYKS focuses on supplying children with a complete set of interactive hygiene kits, such as hand wash, hand sanitiser, mask, thermometer, and tissue paper, aiming at inculcating good health behaviours among school children. Compared to other marketed products, COHYKS is supplied with flashcards, comprising six steps of handwashing and Covid-19 warning signs. COHYKS is packed in a small travelling bag, illustrating Covid-19 prevention and precaution as well as the QR code for video of handwashing steps for kids. A community programme concerning hygiene and handwashing awareness was conducted at Sekolah Rendah Islam Al-Qari, Kubang Kerian, Kelantan. Other than lecture, exhibition, and demonstration of hand washing and hand scrubbing, the students were given hygiene kits including hand wash to practise handwashing on their own. It was found that most of the students were aware of hand hygiene and started to practise hand hygiene after the programme.

Keywords: children, Covid-19, hygiene, kit

1. INTRODUCTION TO COHYKS

Children always ignore their hygiene, especially those in primary school. It might be due to them not well trained and developed when they were young. Therefore, they are easily exposed to infections. Currently, COVID-19 pandemic is the most crucial issue to be considered concerning children's health. Personal hygiene is critical in preventing the spread of infection. One important component of personal hygiene is handwashing [1]. Our main focus is on good health behaviours among school children, for example, washing hands frequently with hand sanitizers and hand wash. Handwashing with soap is crucial to reduce the occurrence of diarrhoeal disease and respiratory infection by approximately 42% to 47% and 30%, respectively, which are significant contributors to child morbidity and mortality [2]. Besides, we aim to

develop an interactive way of showing good handwashing technique and illustrated info about COVID-19. It includes its precautions, symptoms (sneezing, coughing, fever), and actions to take if children get sick. It is to train children to distance themselves from one another and keep enough space not to touch their friends as well as to prevent the spread of COVID-19. Since one of our goals is to protect children from COVID-19, we have developed a new Personal COVID-19 Kit for Kids called COHYKS. The kit comes with hand sanitiser, hand wash, thermometer, tissue, mask, and flashcards. This product novelty is based on its interesting features for kids through its presentations. For example, the front part of the product packaging displays kids' cartoon illustration. The illustration includes the reminder for the children to wash their hands, avoid face touch, wear a mask at all times, and keep one-meter social distancing. Other than that, it also contains flashcards guiding handwashing steps and precautions of COVID-19 warning signs. There is also a QR code at the front part of the product packaging; children can watch a video of handwashing steps and COVID-19 precautions when they scan the QR code. Due to its small size (15 cm x 19 cm), it is easy for the children to bring COHYKS anywhere they go, mainly to school. Besides, the zipper pouch makes it easy for them to open and close the kit. The product packaging shown in Appendix 1.

2. METHOD

After developing COHYKS, we conducted a community programme, known as 'Hari Kesihatan', at Sekolah Rendah Islam Al-Qari, Kubang Kerian, Kelantan. Hygiene and handwashing awareness was highlighted during the programme to introduce the kit to the students. Apart from having a lecture, exhibition, and handwashing and hand scrubbing demonstration, the students were also given the hygiene kit for them to practise handwashing on their own. The students were given a set of questions to test their knowledge and understanding of hand hygiene. Data were recorded before and after the programme to measure their understanding concerning hygiene and handwashing goals. This study employed a single-arm community intervention for the school children between February to March 2020. The sample population is students selected randomly from Sekolah Rendah Islam Al-Qari, Kubang Kerian, Kelantan. The exclusion criteria were that they were refused to answer the question set and refused to join the programme. The calculated sample was 50 students selected using random sampling. The score was given for true or false questions. The data were analysed for the independent sample t-test between the pre- and post-programme scores using SPSS V27.

3. COHYKS OUTPUT

COHYKS is a must-have product for every kid, especially during the COVID-19 pandemic. Kids would be interested in using COHYKS as it has a lot of illustrations and interactive videos for kids. Concerning the community programme conducted earlier, the data recorded for questions given showed that most of the students had improved their knowledge after the programme. Prior to the intervention, most of the students had poor knowledge concerning the infection risks, infectious diseases, and handwashing technique. The questions included the knowledge about infection risks, common infectious diseases, and handwashing practices, with the significant difference of $p < 0.05$ for the true results answered by the students after the programme compared to before the programme. Appendix 2 shows the table scores of students' knowledge level before and after the intervention programme.

4. CONCLUSION

Overall, results of studies examining inter-vention strategies for handwashing with young children suggest that a combination of both antecedent and consequence strategies should be used to teach and maintain appropriate handwashing. Given the importance of frequent and effective handwashing during the current COVID-19 pandemic, we suggest a treatment package that involves demonstrating hand washing effectiveness along with ongoing performance feedback, teaching a handwashing song, and providing frequent and immediate consequences (e.g., feedback, rewards) after handwashing. Caregivers could provide visual feedback of handwashing effectiveness using commercial products, such as Glo Germ™, or common household products, such as nutmeg and lotion. Various handwashing songs (see Appendix) may prompt best-practice handwashing by describing where to scrub for and appropriate duration.

The COHYKS post-development and intervention strategies evaluation for children handwashing behaviour suggest that a combination of both the hygiene kit and awareness strategies should be employed in teaching and maintaining appropriate hand washing practices among children. Given the importance of frequent and effective handwashing during the COVID-19 pandemic, we suggest a treatment package involving hand washing effectiveness demonstration along with ongoing performance feedback and frequently providing rewards if the children are practising handwashing. Caregivers could utilise the interactive video that comes with COHYKS by scanning the QR code given to visualise the children with the handwashing demonstration and COVID-19 infection precautions.

After the programme, by using COHYKS on their own, students were able to practice the correct handwashing steps. The findings indicate that most students are aware of hand hygiene and their knowledge concerning infectious diseases and hand hygiene increases after the programme.

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Appendix 1:



Figure 1. COHYKS packaging

Appendix 2:

Table 1. The score level of knowledge before and after the intervention among school children (n=50)

Question	Score level pre-intervention		Score level post-intervention		P-value
	True	False	True	False	
Risk of infection					
Incomplete Immunity	27 (54)	23 (46)	49 (98)	1 (2)	0.001*
Crowd of students	36 (72)	14 (28)	46 (92)	4 (8)	
Finger sucking habit	37 (74)	13 (26)	50 (100)	0 (0)	
Children eat a lot	29 (58)	21 (42)	50 (100)	0 (0)	
Obese children	30 (60)	20 (40)	50 (100)	0 (0)	
Infectious disease					
Diarrhoea	25 (50)	25 (50)	48 (96)	2 (4)	0.001*
Hand, foot and mouth disease	46 (96)	4 (4)	50 (100)	0 (0)	
Skin diseases	35 (70)	15 (30)	50 (100)	0 (0)	
Eye diseases	37 (74)	13 (26)	50 (100)	0 (0)	
Diabetes	35 (70)	15 (30)	50 (100)	0 (0)	
High blood pressure	34 (68)	16 (32)	50 (100)	0 (0)	
Heart disease	33 (66)	17 (34)	50 (100)	0 (0)	
Hand washing practices can prevent infectious diseases	34 (68)	16 (32)	48 (96)	2 (4)	0.001*
Hand washing practices could prevent germs transmission	17 (34)	33 (66)	44 (88)	6 (12)	
Hand washing should be practice when:					

Before eating	47 (94)	3 (6)	50 (100)	0 (0)	
After eating	48 (96)	2 (4)	50 (100)	0 (0)	
Before entering toilet	24 (48)	26 (52)	46 (92)	4 (8)	
After entering toilet	46 (92)	4 (8)	50 (100)	0 (0)	
After cough or sneeze	46 (92)	4 (8)	50 (100)	0 (0)	
After wiping sneeze	42 (84)	8 (16)	50 (100)	0 (0)	
Before playing	24 (48)	26 (52)	46 (92)	4 (8)	
After playing	17 (34)	33 (66)	46 (92)	4 (8)	
Before sleeping	17 (34)	33 (66)	46 (92)	4 (8)	
After sleeping	15 (30)	35 (70)	46 (92)	4 (8)	
Seven steps of hand washing	33 (66)	17 (34)	50 (100)	0 (0)	
How to wash hands					
Using water only	24 (48)	26 (52)	50 (100)	0 (0)	0.063
Using soap only	29 (58)	31 (62)	50 (100)	0 (0)	
Using water and soap	46 (92)	4 (8)	50 (100)	0 (0)	
Who needs to wash hands					
School children	49 (98)	1 (2)	50 (100)	0 (0)	0.007
Teachers	48 (96)	2 (4)	50 (100)	0 (0)	
Parents	48 (96)	2 (4)	50 (100)	0 (0)	
Gardener	47 (94)	3 (6)	50 (100)	0 (0)	
Canteen staff	47 (94)	3 (6)	50 (100)	0 (0)	
Safety guard	41 (82)	9 (18)	50 (100)	0 (0)	
School clerk	41 (82)	9 (18)	50 (100)	0 (0)	

Number in bracket: percentage, *significant when $p < 0.05$



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Kelulusan daripada pihak YBhg. Profesor dalam perkara ini amat dihargai.

Sekian, terima kasih.

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