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Impact of Health Education on Knowledge, Attitude and Practice of Personal Hygiene of Orphans in Selangor, Malaysia: An Interventional Study

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ABSTRACT

Introduction: Inadequate care of personal hygiene or poor sanitation can inevitably result in the transmission of disease. With the recent outbreak of Hand Foot and Mouth Disease (HFMD) in Malaysia, steps need to be taken to ensure the overall well-being and protection of children (1). To the best of our knowledge, not many studies have been published on the knowledge of personal hygiene among orphans in Malaysia. As such, there is a need to assess the knowledge and level of personal hygiene among children, especially those residing in orphanages, since infections and diseases can spread easily among children due to overcrowding (2).

Purpose: The main purpose of this study is to assess and determine the difference of knowledge, attitude and practice of orphans on personal hygiene before and after health education.

Results: The study included 162 orphaned children; most of whom were female 92 (56.8%). Most of the orphans were residents from Home 4 (46.3%) with an age range of 7 to 17 years. More than a third of the participants knew the importance of hand washing (88.9%). After intervention, there were marked increases of 37.7%, 32.7% and 32.2% for the third, sixth and eighth question on knowledge respectively. Participants had good attitude towards personal hygiene even before intervention. In both pre and post-test, there is a significant positive correlation between the knowledge, attitude, and practice scores ($p<0.05$). Female and older children had a significantly better scores in knowledge, attitude and practice than male and younger ones (Table 6, 7, 8). Residence had no significant effect on the children's attitude and practice, while there is a significant association between residence and practice after intervention ($p>0.05$).

Conclusion: Before the intervention, the children's knowledge, attitude and practice of personal hygiene were lacking in some areas. The scores improved significantly after health education.

Keywords: Personal hygiene, Orphanages, knowledge, practice, health education

I. INTRODUCTION:

Personal hygiene is the practice that leads to body cleanliness and good personal appearance or simply personal grooming. Personal hygiene may be in the form of bathing, hair shaving or having a haircut, brushing the teeth, washing of hands, clothes and not to forget menstrual hygiene. Well maintained personal hygiene plays a big role in an individual's daily life in aspects such as health, social and psychological responses from their surroundings (3).

Cleanliness in individuals in communities can reduce the risk of communicable diseases outbreak, thereby improving the overall health of a community (4). Winslow in 1920 observed that personal hygiene can be improved by educating individuals in communities on basic tips of achieving personal cleanliness through their organized efforts and informed choices (5). Studies also have shown children in primary schooling age are able to learn specific health-promoting behaviours, even if they do not fully understand the connections between illness and behaviour (6). Apart from that, it has been proven that parasitic infections are readily and easily spread among children in orphanages because of their living conditions, crowding and behavioural pattern (7).

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Personal hygiene is very important in every part of life and proper practicing of cleanliness should be inculcated since childhood. A research conducted on the school health services in India showed that school children who were taught what and how to follow appropriate hygiene methods will usually hold on to the knowledge as they mature (8).

The general objective of this research is to assess knowledge, attitude and practice of orphans on hand washing, tooth brushing, nail care, bathing, clean clothes and hair care before and after health education intervention.

II. METHODOLOGY

A minimal sample size of 138 was calculated using 95% CI and a precision of 5%. One hundred and sixty orphans were chosen conveniently among the orphanages in Selangor. No orphans were excluded as all 160 orphans completed all needed data properly.

Study Design

This was an interventional study conducted amongst children ages 7 to 17 staying in 4 orphanages across Selangor. The inclusion criteria for this study was the participants had to be children of 7 -17 years of age staying in the orphanage.

Study Instrument

Data was collected through face to face interview and self-administered structured questionnaires. Face to face interview was done with children aged 10 and below, while the older children were asked to answer the questionnaires themselves.

Research Questionnaire

The questionnaire used for this project is based on the KAP (knowledge, attitude, practice) survey model. The KAP model is a quantitative method that provides access to quantitative and qualitative information (9). A KAP survey can generate data that can be used for the following purposes (10):

- To identify knowledge gaps, cultural beliefs, and behavioural patterns that may identify needs, problems, and barriers to help plan and implement interventions.
- To deepen the understanding of commonly known information, attitudes, and factors that influence behaviour.
- To generate baseline levels and measure changes that result from interventions.
- To assess and identify communications processes and sources important for program implementation and effectiveness.
- To help set program priorities and make program decisions

The knowledge section of the questionnaire consists of 13 questions which assesses the child's knowledge of basic hygiene (what is known). The attitude section consists of six questions which gauges the child's outlook on the upkeep of hygiene. Finally, the practice section consists of 20 questions which evaluates the child's practice of hygiene. The same questionnaire is used for pre- and post-intervention, allowing us to easily compare any changes between both evaluations.

The questions used were adapted from a similar study done by the Public Health and Community Medicine Department of Tanta University in Egypt (11). While there were other published studies which used the KAP model, this was the closest to our target demographic.

Validity

Because a large majority of our target demographic were Malay-speakers, it was essential for us to translate the questionnaire for the subjects' easier understanding. This translated questionnaire was validated by allowing ten Malay-speaking children aged 7-13 to take the survey and give any feedback on any language difficulties or possible improvements (Appendix A).

Ethics

Because the children are not able to take their own consent, the director of each orphanage is required to sign a page which explains the purpose and process of the study, allowing us to carry it out (Appendix B).

Scoring System

Knowledge: There were 13 questions scored (1, 0) for yes and no/don't know. The total score ranged from 0 to 13. The score was divided into two categories; poor knowledge with a score less than 75% {< 9.75} and good knowledge more than 75% {>9.75}.

Attitude: There were six questions for attitude answered with (1, 0) for agreeing and don't agree/don't know. The total score ranged from 0 to 6. The score was divided into two categories; poor attitude with a score less than 75% {< 4.5} and good attitude for scores more than 75% {> 4.5}.

Practice: There were 20 questions scored (1, 0) for practice and don't practice/don't know. The total score ranged from 0 to 20. The score was

divided into two categories; poor practice with a score less than 75% {< 15 and good practice, more than 75% {> 15}.

III. DATA ANALYSIS

The data was analysed using IBM SPSS version 23.0

IV. RESULTS

Table 1 shows the demographics of the participants in our study. The study included 162 orphans, majority of whom are female (56.8%). The samples were attained from four orphanages. The highest number of orphans was in Home 4 (46.3%). More than half the participants were between the ages of 13 to 17 years old (53.7%) while the remaining were ages ≤ 12 years old (46.3%).

Table 2 shows the frequency distribution of the study subjects according to their knowledge towards personal hygiene in the pre and post-test; In the pre-test results, 88.9% of the participants knew the importance of hand washing. The best questions answered were the 1st ,4th and 10th (the importance of handwashing, tooth brushing and handwashing with soap) as they were 88.9%, 90.1 % 85.8% for the first, second and third item, respectively. More than a quarter of the children did not know the harm of nail biting (46.3%), the importance of cleaning ears (45.1%) and harm of poor personal hygiene (39.5%).

After intervention, there were marked changes in their knowledge seen especially in questions 3, 6 and 8 which is about the importance of cleaning ear, harm of nail biting and poor personal hygiene. There was an increase in 37.7%, 32.7% and 32.2% for the third, sixth and eighth question, respectively.

Table 3 shows the frequency distribution of the study subjects according to their attitude towards personal hygiene in the pre and post-test. In the pre-test, they had good attitude towards all asked aspects except the 6th question where less than 75% of the children did not agree that improper skin care can result in illness. After the intervention, there was an improvement from 63.6% to 82.1% for question 6.

Table 4 shows the frequency distribution of the study subjects according to their practice towards personal hygiene in the pre and post-test. In the pre-test, 52.8% of participants practiced taking a bath at least once a day while 27.2% do not. Also, it is seen that nearly 45% of the orphans do not avoid walking with bare feet whereas only 55.6% avoided walking with bare feet. In the post-test, 82.7% participants practiced brushing their teeth at least twice a day. There were improvements noted in question 3, 6 and 12 by 24.7%.

Table 5 shows the difference between the pre and post scores.

There was a statistically significant improvement in knowledge score following the intervention programme from 9.51 ± 3.26 to 12.25 ± 1.56 (p=0.000; t= -11.08; an improvement of -2.75± 3.16).

In addition, there was a statistically significant improvement in attitude score following the intervention programme from 5.10 ± 1.18 to 5.65 ± 0.92 (p=0.000 ; t= -5.97 ; an improvement of -0.54 ± 1.16).

Moreover, there was a statistically significant improvement in practice score following the intervention programme from 14.91 ± 3.30 to 16.94 ± 2.98 (p=0.000 ; t= -8.38 ; an improvement of -0.20 ± 3.08).

There are significant associations between gender, home and age and the level of knowledge where, females and older children had significantly better knowledge than male and younger children before intervention (P ≤ 0.001).

In the post-test there are significant associations seen between gender and level of knowledge (p=0.000). On the other hand, there are no significant associations between age and level of knowledge (p=0.051) where both age groups scored more than 90%.

There was significant association between knowledge and the place of residence in both the pre and post-test (p= 0.000).

V. DISCUSSION

In the present study, orphans showed a high level of knowledge concerning the importance of handwashing, use of soap in washing hands and tooth brushing (Table 1). This has been reported before in another study carried out in Egypt (2016) among pre-school children, as 85.7% of children knew the importance of handwashing and 89.2% of pre-schoolers knew the importance of using soap when washing hands (11). It was also noted in another study carried out in Pakistan (2018) that 64.7% of primary school children had knowledge regarding tooth brushing (12).

Whereas the orphans showed low levels of knowledge with respect to, harm of nail-biting, importance of ear cleaning and harm of poor personal hygiene, the results were lower than other reported studies in Erbil city (2012) and India (2014) (13, 14), as more than half of the children knew the importance of good personal hygiene.

This may be due to the difference in study population.

Most of the children had good attitude towards personal hygiene (Table 2). These high proportions were consistent with those reported by Sheren (2012) (13). However, the present findings are higher than reported from another study done in Turkey as only 46.9 % of students reported washing their hands before meals (15).

Almost three quarters of the orphans in the present study had a bath daily (72.8%), also 58% brushed their teeth at least twice daily. These findings are in contrast with Ansari (2014) who reported 81 % of children had their bath every day while only 31 % practiced brushing their teeth two times a day (16). On the contrary, a study on school children by Kenneth et.al. (2008) highlighted that in countries such as Sweden, Switzerland, Germany and Norway, more than 75% of children brushed their teeth more than once daily. Whereas in countries such as Turkey, Malta and Greece, less than 46 % brushed their teeth more than once per day (17). This could be explained by the difference in living conditions and the level of awareness among the parents or guardians of the children.

The female orphans had significantly superior knowledge, attitude and practice than male orphans (Tables 6, 7, 8). These results are comparable to those of a study by Kamran et. Al (2014), where females had better knowledge, attitude and practice scores than the opposite sex, particularly regarding oral health. However, the results of the current study contradict those of Hala (2016) which report that male pre-schoolers had significantly better knowledge, attitude and practice than female pre-schoolers. The difference in results may be due to the cultural and social differences experienced by the children in their respective countries.

Older children (>12 years old) had significantly higher knowledge, attitude and practices than the younger children (≤ 12 years old) (Table 6, 7, 8). These findings are complementary to those of Sheren et. al (2012) and Hala (2016). They have noted a significant relationship between age and knowledge of the child, concerning personal hygiene.

VI. LIMITATIONS

While we managed to get the results we wanted, the study had several limitations.

Formulation of research aims and objectives. The research aims and objectives were a little too broad as they sought information from orphans in Selangor, which is a very large area. While the age group was specific, the study could have used a smaller area of focus such as a section of Petaling Jaya or a selection of two neighbourhoods in the Kuala Lumpur area.

Data collection method. Because we do not have previous experience in primary data collection, there is a chance that the nature of data collection method is flawed. The data collected is based on a self-reported questionnaire. Therefore, the information collected cannot be ensured to be all true and the practice cannot be ensured for all items present in the questionnaire.

Sample size. The sample size of 162 might have been too low for such a large area of focus. A larger sample size can be used if funds and time permitted.

Lack of previous studies. While there are previous studies similar to this, none were focused on the same demographic, nor the same area. The previous studies were a good foundation to build the current study, but not enough to properly support it.

Language. As stated in the methodology, the questionnaire was translated into Bahasa Melayu to accommodate the large Malay population. There was however, some problems in the comprehension of the questions. This affected some of the pre-test data and allowed us to clarify the misunderstandings with the participants after.

VII. CONCLUSION

While there was some lack of knowledge and practice towards personal hygiene before the intervention, the orphans held a good attitude towards the lessons that we had provided for them. This resulted in an improved post-test score for all three aspects.

From this study, it is shown that there is a need for increased health education, especially concerning personal hygiene among orphans and other underprivileged. This ensures that all children can learn how to protect themselves and others from communicable diseases, illnesses, and other risks related to poor hygiene implementations. Health education can be given to the orphans as part of an after school lessons though either formal or informal health messages such as through timely interventions, educational videos and etc.

This study hopes be a foundation for further research in public health, especially concerning children. We recommend that the limitations be taken into consideration and improvements be made.

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REFERENCE

(1) Hand, foot and mouth disease outbreak in Malaysia: 6 things you need to know about the disease, 31 July 2018, The Straits Times, viewed on 23 December 2018, https://www.straitstimes.com/singapore/health/hand-foot-and-mouth-disease-outbreak-in-malaysia-6-things-you-need-to-know-about

(2) Mohamed N, Zulkifli Amin N, Ramli S, Isahak I & Mohamed Salleh N, 2016, Knowledge, attitudes and practices of hand hygiene among parents of preschool children. Journal of Scientific and Innovative Research 2016. Volume 5, Issue 1, pages 1-6, viewed on 23 December 2018

(3) Bates P (2011), Checklist on Hygiene and Grooming, National Development Team for Inclusion, viewed on 22 December 2018 https://www.ndti.org.uk/uploads/files/Checklist_on_hygiene_and_grooming_NDTi_July_2011.pdf

(4) Pembi E., & Baba U. A., et al (2013), State of personal hygiene among primary school children: A community based cohort study, Sudanese Journal of Paediatrics, National Center for Biotechnology Informations, United States of America. Viewed at, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4949962/#CIT0001

(5) Winslow C.E., (January 1920). The Untitled Fields of Public Health. Science 1920; 51(1306): 23–33, viewed at, https://www.ncbi.nlm.nih.gov/pubmed/17838891

(6) Richmond J.B., & Kotelchuck M. Personal Health Maintenance for Children. West J Med. 1984;141:816–823, viewed at, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1011216/pdf/westjmed00184-0084.pdf

(7) Makhlouf S.A. et al (April 1994) Parasitic Infection among Children Living in Two Orphanages in Cairo. European PMC. Viewed at https://europepmc.org/abstract/med/8169435

(8) Rama B, Varu Sage Publications Pvt Ltd; School Health Services in India: The social and economic context; 2008.p.1-2.

(9) Spring. "The KAP Survey Model (Knowledge, Attitudes, and Practices)." SPRING, 16 Oct. 2014, www.spring-nutrition.org/publications/tool-summaries/kap-survey-model-knowledge-attitudes-and-practices.

(10) World Health Organization. A guide to developing knowledge, attitude, and practice surveys. Geneva, Switzerland: World Health Organization, 2008. Available online at: http://www.stoptb.org/assets/documents/resources/publications/acsm/ACSM_KAP%20GUIDE.pdf.

(11) Elsabagh, Hala. (2016). Knowledge, Attitude and Practice Regarding Personal Hygiene among Preschool Children in Tanta city, Gharbia Governorate, Egypt. International Journal of Medical Research Professionals.

(12) Farzana P (2018), Knowledge, Attitude and Practice towards Personal Hygiene among Primary: School Children of Rural Area of Lahore, Pakistan. Saudi Journal of Nursing and Health Care. ISSN: 2616-6186 (online)

(13) Sheren N. et al (2012) Knowledge and attitudes of pupils in some of the primary schools regarding personal hygiene in Erbil city. Kufa journal for nursing sciences 2012 vol. 2, issue1,5.

(14) Shrestha A. et al (April 2014), Impact of Health Education on the Knowledge and Practice Regarding Personal Hygiene among Primary School Children in Urban Area of Karnataka, India. IOSR Journal of Dental and Medical Sciences (IOSR-JDMS). Volume 13, Issue 4 Ver. VII, PP 86-89

(15) Yalcin S. et al (2004) Hand Washing, And Adolescents. A Study From Seven Schools In Konya, Turkey, International Journal of Adolescence Medical Health, 16:371–6

(16) Ansari S.Y. (September 2014), Assessment of the Knowledge and Practice Regarding Personal Hygiene among School Children from an Urban Area. International Journal of Current Medical And Applied Sciences, vol.4. Issue 1, September: 2014. PP: 1-12.

(17) Eaton K., Carlile M. (2008). Tooth Brushing Behavior In Europe: Opportunities For Dental Public Health. International Dental Journal; 2008; 58, 287-293.

(18) Kamran A., et al (June 2014). Survey of Oral Hygiene Behaviours, Knowledge, and Attitude among School Children: A Cross-Sectional Study from Iran. International Journal of Health Sciences 2014. June, Vol. 2, No. 2, pp. 83-95

Appendix A
Questionnaire
Preamble: I am going to ask you some questions, mainly about personal hygiene. I would like you to answer yes or no wherever possible.

Section 1: General Information
1) What is your age? _____

2) What is your gender?
Male ☐ Female ☐

Section 2: Knowledge
1. Do you know the requirement of personal hygiene?
Yes ☐ No ☐

2. Do you know the requirement of general hygiene?
Yes ☐ No ☐

3. Do you know the importance of hand washing?
Yes ☐ No ☐

4. Do you know the importance of foot washing?
Yes ☐ No ☐

5. Do you know the importance of cleaning your ear?
Yes ☐ No ☐

6. Do you know the importance of tooth washing?
Yes ☐ No ☐

7. Do you know the difference between personal and general hygiene requirement?
Yes ☐ No ☐

8. Do you know the harm of nail biting on health?
Yes ☐ No ☐

9. Is the towel a personal hygiene instrument?
Yes ☐ No ☐

10. Is the broom a general hygiene instrument?
Yes ☐ No ☐

11. Do you know the harm of poor personal hygiene?
Yes ☐ No ☐

12. Do you know how many times of tooth brushing/day?
Yes ☐ No ☐

13. Do you know the importance of hand washing with soap?
Yes ☐ No ☐

14. Do you know what you should do during sneezing?
Yes ☐ No ☐

15. Do you know how many times of bathing/week?
Yes ☐ No ☐

16. Do you know the importance of using handkerchief during sneezing?
Yes ☐ No ☐

Section 3: Attitude

1. Using tooth paste is important in cleaning tooth
Yes ☐ No ☐

2. The towel is a personal hygiene instrument
Yes ☐ No ☐

3. Being more obese meaning more strong
Yes ☐ No ☐

4. Washing hand with soap is important after dealing with animals
Yes ☐ No ☐

5. Body cleanliness is important
Yes ☐ No ☐

Section 4: Practice

1. Do you wash your face in the morning?
Yes ☐ No ☐

2. Do you have a special towel?
Yes ☐ No ☐

3. Do you wash your tooth twice/day?
Yes ☐ No ☐

4. Do you take a Bath once /day?
Yes ☐ No

5. Does someone help you to clean your ear after bathing?
Yes ☐ No ☐

6. Do you wash your hands with soap before and after meals?
Yes ☐ No ☐

7. Do you wash your hands with soap after a toilet?
Yes ☐ No ☐

8. Do you wash your hair with water and shampoo?
Yes ☐ No ☐

9. Do you Comb your hair after a bath?
Yes ☐ No ☐

10. Does someone help you to cut your Nails at least once weekly?
Yes ☐ No ☐

11. Do you Use tooth paste after meals in cleaning tooth?
Yes ☐ No ☐

12. Do you Change underwear daily or frequently per week?
Yes ☐ No ☐

13. Do you avoid walking with bare feet?
Yes ☐ No ☐

14. Do you use a private comb?
Yes ☐ No ☐

15. Do you wash your hand after dealing with an animal?
Yes ☐ No ☐

16. Do you use a handkerchief during sneezing?
Yes ☐ No ☐

17. Do you keep your foot and socks clean?
Yes ☐ No ☐

18. Do you keep your face and hand clean?
Yes ☐ No ☐

19. Do you eat from street vendors?
Yes ☐ No ☐

20. Do you use antiseptic for a wound cleaning?
Yes ☐ No ☐

21. Do you have your own cup?
Yes ☐ No ☐

Appendix B
CONSENT FORM
I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have been asked have been answered to my satisfaction. I consent voluntarily for the children of the orphanage to participate in this study.

Name of orphanage's director: _____
Name of child: _____

Signature: _____
Date: _____
Day/month/year

Statement by the researcher/person taking consent

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands that the following will be done:
1. Questions on his/her knowledge, attitude and practice of hygiene
2. Involvement in the hygiene practice activities
I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.
A copy of this ICF has been provided to the participant.
Name of Researcher/person taking the consent _____

Signature of Researcher /person taking the consent _____
Date _____