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Hand Hygiene Awareness Among Childcare Providers

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Abstract

Teachers in kindergarten play important role in educating correct hygiene practices to children. This study was conducted to assess the knowledge, practice and perceived barrier of hand hygiene among kindergarten's teachers. Teachers from two kindergartens were recruited non randomly for a semi-structured face-to-face interview. The open-ended question comprised of questions on what, how and why to do hand hygiene, including what were perceived to impede and facilitate hand hygiene and monitoring process. Eight teachers agreed to participate. Four had attended courses related to hand hygiene and infections. None of them were able to demonstrate proper steps of hand hygiene. Most teachers suggested health promotion and campaigns to promote hand hygiene practices. Respondents believed that too much work hindered them from practicing hand hygiene. Hand hygiene knowledge was inadequate. Measures should be taken to ensure kindergarten teachers and caretakers are adequately trained and competent in providing safe environment to children under their care.

Keywords: hand hygiene, teachers, kindergarten, childcare provider

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Introduction

Children are more susceptible to infections due to immature immune system and lack of understanding of personal hygiene. Those attending pre-schools, nurseries and kindergarten are at higher risk due close proximity between each other. Risk factors that contributed to recurrent respiratory tract infections among young children were the presence of older siblings in the family attending the community, comorbidities (immunodeficiency, malnutrition, iron deficiency anemia, rickets) antibiotics, and early socialization[1]. The two environmental factors i.e. older siblings attending the community and early socialization are related to attending school and early socialization in any childcare facilities.

Common infections in children such as hand, foot, mouth disease and respiratory tract infections are transmitted via breathing the contaminated air and touching the contaminated surfaces. Practicing cough etiquette and proper hand hygiene can prevent these infections. Therefore, increasing the awareness and knowledge of children on the importance of proper hand hygiene in disease prevention is paramount. Hand hygiene intervention in pre schools and nurseries have been shown to reduce prevalence of diarrhea, upper respiratory tract infections and hand foot and mouth disease among children [2,3]. Comprehensive hand hygiene interventions also resulted in reduction of absenteeism rate due to illness among children [4].

Teachers and parents play a vital role in inculcating good hand hygiene habits among pre-school children. A study among parents showed that, majority had a good knowledge of hand hygiene, but about two third were unaware of correct hand washing technique [5]. According to Aliyu et al, the hand washing technique was poorly understood by caregivers and this was not associated with educational or social status[6]. To the best of our knowledge, hand washing knowledge and practice among teachers has not been reported. Therefore we conducted this study to assess the knowledge, practice and perceived barriers of hand hygiene practice among teachers in kindergarten. The outcome of this study will serve as a basis for development of infection control module for pre-schools, kindergarten and nurseries.

Material and methods

This was a cross-sectional study among teachers from two kindergartens. The kindergartens were under the same management and they were located at different areas. They cater children from the age of three until six years old. Data were collected via semi-structured face-to-face interview. The interviewers were briefed earlier to ensure standardization. Interviews were conducted in Malay language and lasted for approximately 20 minutes each. The open-ended question set comprised of questions on what, how and why to do hand hygiene, factors that impede and facilitate hand hygiene practices in pre-school as well as monitoring process by superior. The sessions were audio-recorded, transcribed verbatim and translated to English language.

Results

A total of eight pre-school teachers were interviewed. The mean age of respondents was 24.25. All of them were female, 75% (n=6) hold a degree while the rest with diploma. Less than half of respondents had attended hand hygiene related seminar. Those who had attended the seminar said that they received information regarding infections in children, proper hand hygiene steps and use of towel to dry hands.

Hand Hygiene Knowledge

All respondents agreed that children are vulnerable to infections, thus hand hygiene is important to prevent them from being infected with germs and diseases. Furthermore, children spend their time outdoor playing on grass, soils, and playground where they can contract infections. Even indoors, they were aware that the children could get the germs from their stationaries, whiteboard and other things in the classroom.

Almost all of them admitted that they knew how to wash hands. However, when further question asked regarding hand hygiene steps, many failed to describe correct steps. Below are the answers for this question; Can you describe the hand hygiene steps?

A: after playing. Use soap

B: wet hands & finger webs, soap, rotate nails on palms, rinse with water

C: wet hands, soap, rub nails, back of fingers, nails

D: water, soap, back of hands, nails, palm

E: wet hands, soap, finger webs, nails, palm, rinse, dry

F: webs, back of hands

G: from above below, webs

H: wet hands, rub palm, webs

Hand hygiene Practice and Monitoring

All respondents and their students practiced hand hygiene during important activities such as after playing, after each school activity, before eating, after toilet as well as before

and after cooking. When asked on how they encouraged the students to practice hand hygiene in the pre-school, some answered use hand sanitizer, while some answered wash hands after all the activities done. One of them mentioned to wash hand, followed by antiseptic and hand sanitizer, while another mentioned to sanitize hand before washing.

All respondents claimed that their superior monitored hand hygiene activities at least once a month. Monitoring was done by observation and the matters were discussed in meeting. All agreed that monitoring is important so that all teachers would always be reminded.

Factors that Promote and Hinder Hand Hygiene Practice

Factors that increase hand hygiene compliances include campaign, seminar, constant reminders, adequate facilities, regulation and self-motivation. Half of respondents believed that too much work and inadequate facilities hindered them from practicing hand hygiene frequently.

Discussions

The findings showed that most teachers were aware that children are vulnerable to infections. However, they were not well equipped with knowledge on when and how to practice hand hygiene, and this condition eventually resulted in poor hand hygiene practices among teachers and children under their care. This is a worrying situation as studies among students showed that parents and teachers were said to be the common source of knowledge provider on personal hygiene [7,8]. Not only through formal education, children also learn through observation and imitation of modeled behavior and listening to instructions from parents or caregivers.

Practising correct technique of hand hygiene is important to ensure all parts of hands are properly cleaned. The World Health Organization (WHO) recommended six steps of hand washing that include; rubbing palm to palm, rubbing back of hands, rubbing palm with finger interlaced, rubbing back of fingers, rubbing thumbs and rubbing palms with fingers. There are limited data with regards to teachers' comprehension on hand hygiene technique and steps. However, a study done among 2283 primary school students in India revealed a very small percentage of respondents (0.7%) reportedly practised five steps of hand washing and only 1% practised four steps of hand washing[9]. The above findings could reflect teachers' awareness and knowledge on hand hygiene techniques. Furthermore, a study among parents showed that 76% were unaware of correct hand washing techniques [10].

In general, 'critical moments' for hand washing include after using the toilet, cleaning a child up following defecation, before preparing food and before eating. Other times when hand washing is important are after changing diapers, attending to a sick person, handling raw meat, fish or poultry, after handling garbage, treating a wound or cut and contact with animals. In this survey, all respondents remind their students to practise hand hygiene during important activities such as after playing, before eating and after toilet. Respondents also practised hand hygiene before and after cooking. Interestingly, a study done in Ethiopia showed that almost 100% children reported washing hands before meal but only 14.8% practised hand washing after defecation[11]. Another study done among educator showed that teachers scored higher for self-efficacy in getting children to wash before lunch than in getting children to wash hands after bathroom use[12]. This is also true in our culture where parents religiously teach their children to wash hands before having meals but parents pay less attention to clean hands after using toilet or defecation. Parents and teachers should teach and show to children the 'critical moments' of hand hygiene via constant reminders and providing adequate facilities where necessary.

From this survey, we found that teachers' hygiene (including hand hygiene) practices were monitored by their superior via direct observation. This practice is better than self-reported hand hygiene adherence since the latter tend to result in overestimation of own adherence rate[13]. Direct observation method done by a study in an early childhood center showed that only 30% caregivers and 11% paraprofessional aides practised hand hygiene during triggering events. Moreover, as low as 7% of personnel taking care of two to three year-old children washed their hands, the lowest compliance per age group[14]. Practice of hand hygiene should be made sustainable; the superior should have proper plan and documentation regarding observation and assessment of hand hygiene among teachers. Apart from monitoring, respondents also believed that campaign, seminar, constant reminders, adequate facilities, regulation and self-motivation would increase hand hygiene compliance.

Even though only 20 to 30 seconds is needed to wash hands, most of respondents believed that hand hygiene is time consuming, thus they have not enough time to practice it. This reason was similar to a study done among mothers and caregivers for children under 5 years old, where the commonest reasons given for not washing hands regularly were: being too busy (19%) and non-availability of soaps (17.7%) and water (13.5%)[15]. Likewise, a narrative review among healthcare workers identified heavy workload, infrastructural deficit (e.g. lack of soap, water and hand sanitizer) and poorly positioned facilities as the main barriers for hand hygiene practices[16]. In addition to hand hygiene awareness program, school administrator should also provide adequate supply of soap with tissues and proper wash area to overcome the

barriers. To cut cost, individual hand towel can be used instead of tissues.

In conclusion, this study showed that hand hygiene knowledge and practice amongst these kindergarten teachers were insufficient . They also associated work load and inadequate facilities as a hindrance to proper handwashing practice. Corrective measures should be undertaken to strengthen their knowledge as well as practice. Good knowledge and habit among teachers will directly and indirectly influence children under their care.

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