Effect of Hygiene Education on Communicable Disease in Schools

Aqila Begum Abdul Wakeel

George Mason University

**Introduction:**

People who have been brought up in a well-established environment take for granted the training they have received in terms of health and hygiene. An environment like this provides individuals an opportunity to learn about health, hygienic practices, information and knowledge about bacteria, hygiene, and disease that may not be widely known in many areas of the world. In order to stop or prevent disease transmission community hygiene education is crucial. If a community is given the proper education and tools to prevent infectious diseases from spreading throughout a community, they will promote good attitudes towards community hygiene.

The impact of hygiene education on communicable diseases in schools can play a significant role in setting up the basis to reduce or prevent the incidence of illness among children and adults in a particular community. Educating hygiene, such as hang washing, can encourage students and staff to participate in maintaining a safe and healthy learning environment for children. If there is an incidence of illness, schools should report it to their local health department so that further preventive methods are installed. Hygiene education is effective due to the fact that it is a behavioral change. Everyone can practice good hygiene regardless of their socioeconomic status. It also brings about lasting improvements to aid communities everywhere by emphasizing the importance of practicing good hygiene. Hygiene is one of the least expensive, most cost-effective chances that can be made with immediate rewards in quality of life. It’s a cheap method which provides great benefits, such as helping community members feel better, return to work or school, and spend less money on medical care for sick family members. (*How Community Hygiene Impacts Health in Rural Villages*).

Children, especially those under 5 years of age, are particularly vulnerable to communicable diseases. In order to insure the safety of children, hygiene education needs to be emphasized everywhere, especially in schools (Hygiene education – World Health Organization).

**Background:**

Schools are a great means for spreading information along with diseases. Hygiene education in schools is important due to the fact that it can help prevent or reduce the incidence of illness among children and adults in the community. Small hygiene practices, such as hand washing, can have a huge impact in reducing the risk of communicable diseases. If the schools find that there has been an incidence of illness among their students then they can report it to their local health department (LHD). The LHD and their health specialists can then provide the next necessary steps that need to be taken in order to prevent the spread of the disease and provide control guidance.

In order to provide accurate information on the prevention of communicable diseases, understand how disease is transmitted is crucial. There are five ways in which disease can be transmitted, fecal-oral, respiratory, direct skin-to-skin contact, indirect contact, and bloodborne. Transmission through the fecal-oral route happens when the individual comes in contact with human stool; usually ingestion after contact with contaminated food or objects. Respiratory transmission occurs when the individual comes in contact with respiratory particles or droplets form the nose, throat, and mouth. Direct skin-to-skin contact occurs with the individuals comes in contact with skin that has been infected. Indirect contact occurs when the individual comes in contact with objects or surfaces that have been contaminated. Lastly, bloodborne transmission occurs when the individual comes in contact with infected blood or body fluids. (*Managing Communicable Diseases in Schools*).

**Health Implications:**

Simple prevention methods, such as teaching children how to cough and sneeze can go a long way. Rather than coughing or sneezing directly into the surface or other people, students can cough or sneeze into tissues or their sleeve. This technique could benefit everyone greatly due to the fact that it stops disease transmission through the respiratory route. Proper handwashing procedures should also be implemented in order to prevent or stop the spread of communicable diseases. According to many physicians, hand washing is the easiest way to prevent the spread of diseases. Hands should especially be washed after utilizing the toilet, coming into contact with bodily fluids, before and after handling food, and basically any time after hands are soiled. Since children are more prone to infection and diseases it is important that they wash their hands as frequently as a possible. Alternatives to soap and running water, such as water basin and pre-moistened cleansing wipes are not approved by the LHD. Alcohol-based hand sanitizers containing at least 60% alcohol may be used when soap and water are not available. Steps for proper handwashing provided by the LHD are wet hands under warm running water and apply soap, vigorously rub hands together for at least 20 seconds and especially clean under fingernails and thumbs, rinse hands thoroughly under warm running water, dry hands with a single-disposable towel or an air dryer, and turn off the faucet with disposable towel, the wrists, or back of the hands. In order to avoid bloodborne pathogens, such as Hepatitis B virus (HBV), Hepatitis C virus (HCV) and human immunodeficiency virus (HIV), people need to stay clear of blood or bodily fluids as much as possible. Individuals can come in contact with a disease if they are exposed to infected blood entering open cuts or blood splashing into mucous membranes, such as eyes, nose or mouth. If anyone, children or staff, have been exposed to blood, contact the LDH as soon as possible is absolutely necessary. The LDH will inform the individual with the necessary steps that need to be taken, for example public health information or medical follow-up. The LDH’s plan of action includes developing a means for the school staff on how to address illnesses and reduce spread. If the staff jumps into action as soon as possible, the outbreak of communicable diseases can be prevented. Maintaining a sanitary setting also aids in stopping, preventing, or controlling the spread of communicable diseases. School staff need to ensure that the items and surfaces in schools are cleaned and sanitized frequently. In order to properly clean and sanitize the materials and the surfaces, the staff need to wash vigorously with soap and water, rinse with clean water, and wipe or spray the surface with a sanitizing solution, such as chlorine. Letting the surface air dry for at least two minutes is necessary so that the sanitizing solution has time to set. Any item that cannot be submerged into solution, needs to be sprayed or wiped with a sanitizing solution. For surfaces that have been soiled, immediately wash and rinse them. It is important for the cleaning staff to keep these cleaning, sanitizing or disinfecting product out of the reach of children. Also, a major way to prevent children from being infected with communicable diseases is to make sure that they are up to date with their vaccination. Immunizations can save children’s lives due to the fact that it is a safe and effective method to protect children from diseases. Vaccines are only given to children after they have been reviewed carefully and thoroughly by physicians and other health professionals. There are side-effects to vaccination, such as allergic reaction but this is very and rare and is nothing compared to the pain, discomfort, and trauma of the diseases that vaccines can prevent.

**Methodology:**

When schools witness certain diseases, such as Campylobacteriosis, E. coli, Diarrheal illness, Hepatitis A, etc. then by law they should report it to the local health department. For example, the Michigan Law requires schools and childcare centers to report specific diseases. The Public Acts of 1978 states that physicians, laboratories, primary and secondary schools, child daycares, and camps are required to report the occurrence or suspected occurrence of any disease, condition, or infections. (*Managing Communicable Diseases in Schools).*

The Children’s Water Forum program organized by Unicef in Tajikistan involved more than 500 children and young people in an effort to support youth participation in their WASH education. WASH included steps in which students could get access to safe and reliable water because it is their right. These steps included different projects on different days of the week. For example, the plan on Monday was to practice safe handling of drinking water, Tuesday included practicing safe disposal of wastewater, Wednesday included practicing safe disposal of human excreta, Thursday included disposal of solid waste, Friday included practicing household sanitation and food hygiene, Saturday included educating schools on personal hygiene, and Sunday included educating community members about sanitation through the Global Education Project. Members of WASH organized and constructed plans in order to provide water points, toilets, urinals, school compound fencing and hand washing areas that are safe for children. These brought about an opportunity for children to practice appropriate hygiene habits. (Water, Sanitation and Hygiene (WASH) in schools).

**First supporting case/example:**

The water, sanitation, and hygiene (WASH) program implemented by Unicef and the World Health Organization in schools in Angola, China, Gambia, Pakistan, Thailand, Democratic Republic of the Congo, Nicaragua, and Sudan helped set guidelines on WASH standards for schools in low-cost settings and outlined key steps for successful management of WASH. The guidelines for WASH included steps which states that it is necessary for each school to work and to develop adequate knowledge, attitudes and skills on hygiene through skill-based hygiene education and child participation. Schools should provide students with proper toilets and safe water and washing facilities. Schools should also encourage parents and the community to participate in WASH in school interventions. Parents play a major role in influencing their children and it is important for them to support the planning, implementation, operation and maintenance of facilities. Families and communities that are engaged ensure that the children apply their knowledge at home. If practice is consistent at home, better hygiene practices are then increased throughout communities. Part of the WASH program is to encourage participation from governments and development partners to establish a planning process and management model to address important issues such as long-term stability.

**Second supporting case/example:**

A study conducted by the Center for Global Safe Water, Department of Environmental Health, and other departments showed the impact of school-based hygiene promotion and sanitation intervention in western Kenya. The purpose of the study was to assess the effect of a school-based WASH intervention on reducing fecal contamination on hands. The study was conducted in 135 public primary schools in four districts of Nyanza Province, Kenya. The researchers implemented a hygiene promotion and water treatment intervened that included buckects with lids and taps for handwashing and drinking water storage, and a year supply of a hypochlorite called WaterGuard which was available locally. During they study, the teachers were trained on the proper techniques to maintain drinking and handwashing facilities and to conduct behavior change promotion lessons with students through afterschool programs of clubs. The curriculum for handwashing included methods and techniques on how to wash hands properly by using soap and warm water. The researchers grouped the schools into two groups, 17 intervention schools were randomly selected for the study and 12 of them were grouped in the hygiene promotion and water treatment (HP&WT) intervention and the other five were grouped in the sanitation + HP&WT intervention. When the study was first started, researchers realized that many of the schools did not provide the students with soap to wash their hands. Hygiene promotion increased and improved substantially in many intervention schools compared with control schools. The researcher did not provide soap during the intervention but they observed soap in 33% of HP&WT and 60% of Sanitation + HP&WT schools which means that they schools decided to implement good hygiene techniques with the help of the education and knowledge provided by the intervention programs. Communicable diseases also seemed to decrease significantly in the Sanitation + HP&WT schools rather than the HP&WT schools. Education schools on sanitation seemed to be more important in order to stop or prevent communicable diseases.

**Analysis:**

The second study done in Kenya in order to stop pupil hand contamination utilized the preventative program developed by Unicef and the World Health Organization. Both did a great job in stopping the spread of communicable diseases but the study done in Kenya should two sides. It included a study were WASH was implement along with Sanitation and it also included a study were only WASH was implemented. The programs that included sanitation and HP&WT was more successful in stopping the spread of communicable diseases because they practiced proper handwashing techniques using soap. Although soap was also used in the schools that practiced HP&WT it was not sufficient. In both interventions 41% pupils had any E. coli present on their hands and in the end, it went from 41% to 68%. The frequency of children with high levels of contamination in combined intervention schools increased from 26% to 57%. In the HP%WT schools 494 girls had any E. coli and the relative risk was 0.92, 532 boys had any E. coli and the relative risk was 1.27, 494 girls had high E. coli with a relative risk of 2.18, 529 boys had high E. coli with a relative risk of 0.74. In the Sanitation + HP&WT schools about 400 girls had any E. coli with a relative risk of 2.63, 397 boys had any E. coli with a relative risk of 1.36, 400 girls had high E. coli with a relative risk of 9.75 and 396 boys had high E. coli with a relative risk of 2.60. In both cases, girls were more likely to have E. coli than boys. (*Impact of a School-Based Hygiene Promotion and Sanitation Intervention on Pupil Hand Contaminated in Wester Kenya: A Cluster Randomized).*

**Solutions:**

There has been controversy as to why children who are infected are not excluded from the classroom in order to stop the transmission of communicable diseases. In the past, this was an option but now the Education for All Handicapped Children Act requires that handicapped Children Act be provided the same educational opportunities as those provided to children who are not handicapped. According to legal experts, children with AIDS and herpes may fall under the definition of “handicapped” so this makes it impossible to exclude children who are infected from children who are not. In order to deal with students who have potentially dangerous communicable diseases the National Education Association proposed guidelines for making decisions regarding students with AIDS. The features include, decisions about whether and to what extent infected students should be permitted to remain in the classroom should be made on a case-by-case basis by health professionals. The school should have reasonable cause to believe that a student may be infected through a medical examination submitted by the student. An infected student does not have to attend classes and the school should provide the student with an alternative education. The identity of an infected individuals should not be revealed to the public by any means possible. (*Scott, Communicable Diseases in the Schools*).

 Solutions mentioned by an article on hygiene education discuss the means to promote actions that are realistic. Using social media and other existing channels of communication, such as songs, drama, and story-telling can further decrease the transmission of communicable diseases through hygiene because children are more prone to listen or watch videos on hygiene education rather than get lectured on the subject in a classroom setting. If an educational lesson is implemented the teacher or health professional giving the lecture should include opportunities for dialogue and discussion to allow learner participation and feedback. (*Hygiene Education*).

**Conclusion:**

Controlling the spread of communicable diseases in schools requires participation from children, staff, parents, and communities. Practicing proper handwashing techniques is the most cheap, safe, and effective way to ensure the safety of children in school due to the fact that this reduces the chances of communicable diseases. Although there are alternative to teaching children about hygiene in a classroom setting it is easier to promote safety, hygiene, and sanitation in school. If a health professional goes with the option to education students in a classroom setting it is important for them to make sure to be inclusive. They need to provide the students and teachers opportunities to participate and provide feedback. Parents should also promote good hygiene because children always mimic what their parents do. They can ensure that their child can carry on practicing these methods.

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