



The Crucial Role of Hygiene in Shaping Early Childhood Development: A Comprehensive Review

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Article Information

DOI: <https://doi.org/10.9734/acri/2024/v24i5742>

Open Peer Review History:

This journal follows the Advanced Open Peer Review policy. Identity of the Reviewers, Editor(s) and additional Reviewers, peer review comments, different versions of the manuscript, comments of the editors, etc are available here: <https://www.sdiarticle5.com/review-history/119206>

Review Article

Received: 18/04/2024

Accepted: 21/06/2024

Published: 22/06/2024

ABSTRACT

In early childhood education, good hygiene habits are crucial. It supports the child's development of strength, activity, responsibility, self-assurance, and good performance in daily tasks. It's possible that poor cleanliness poses a risk to early childhood development (ECD). The immune system impacts brain development and functioning. The immune system's later functioning in adulthood is influenced by early childhood factors, including hygiene, and this has implications for susceptibility to neurodevelopmental and psychiatric problems. Pregnancy-related inflammatory events have the potential to directly contribute to CNS developmental issues, which have been linked to autism and schizophrenia.

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Cite as: Shukla, Prachi, Akanksha Singh, Sarita Srivastav, and Suman Prasad. 2024. "The Crucial Role of Hygiene in Shaping Early Childhood Development: A Comprehensive Review". *Archives of Current Research International* 24 (5):691-95. <https://doi.org/10.9734/acri/2024/v24i5742>.

Keywords: Early childhood; hygiene.

1. INTRODUCTION

The technique of keeping one's body clean is known as personal hygiene, and it involves several activities such as bathing, hair styling, brushing teeth, cutting nails, and cleaning ears. It is possible to achieve social approval via these individual behaviours. But it's rare that keeping appropriate or good personal hygiene is recognised as a means of preventing illness. Adams [1] and The United Nations Children's Fund [2] state that increased health is not always the outcome of having access to clean water and sanitary facilities. Evidence suggests that maintaining good hygiene, especially by washing hands with soap at key moments, such as right before or right after using the toilet, is just as crucial as eating and cooking. Diarrhoea is the second biggest cause of death worldwide for children under five, however it can be greatly reduced by hand washing with soap. It has also been demonstrated that practicing good hand washing lowers the risk of contracting several illnesses, including scabies, pneumonia, trachoma, eye and skin infections, and disorders linked to diarrhoea like dysentery and cholera. The initial six years of life are referred to as early childhood [3-6]. Given the rapid pace of growth and the establishment of the groundwork for cumulative lifetime learning and human development, this era is recognised as the most critical. Early childhood development (ECD) is "the process of cognitive, physical, language, temperament, socioemotional, and motor development from conception until age eight," according to the World Health Organisation (WHO). During this early childhood stage, children's needs for personal hygiene drastically change—they no longer need to be taken care of by carers; instead, they must learn how to take care of themselves. Hand washing is one of the most crucial self-hygiene practices that preschoolers should learn. In a school or nursery setting, young children who are starting to take care of their own toilet needs and who interact with other young children can readily transfer a variety of germs. Young children should be taught by carers how germs spread and how washing your hands destroys germs in a very tangible and understandable way. Children should be taught by carers how to wash their hands, when to do so, and how to practise this habit frequently.

2. LITERATURE REVIEW

According to Water Aid America [7], maximising the health advantages of safe water and sanitation facilities requires following basic hygiene practices, such as washing your hands and disposing of waste in a safe manner. In the early infancy period, children's personal hygiene needs shift significantly from being something teachers take care of for them to something they learn to do on their own, according to UNICEF [2]. Hand washing with soap is one of the most crucial self-hygiene practices that preschoolers should learn and practise. Children should be taught by their teachers how germs travel and how washing your hands destroys germs in a realistic and understandable way.

Parents of preschool-aged children from a community in Hong Kong that has a fluoridated water supply participated in a 24-month intervention study [8]. The participants were divided into three groups and given the following treatments: 1) oral health education; 2) toothbrushing instruction and education; and 3) toothbrushing instruction and fluoride varnish application every six months. The data indicated that there was no difference in the children's caries experience, DMFT scores, or frequency of tooth brushing between the groups. The results of this study could not be utilised to assess how successful the oral health education was because there was no control group. The fact that the interventions they received—tooth brushing instruction and a six-monthly fluoride varnish application—did not, however, appear to have any further discernible benefits, as seen by the lack of variations in the outcomes.

The dental health condition of preschoolers in the two intervention groups and the control group was compared by Manchanda and colleagues [9]. Infant oral health education was given to one intervention group, MI was given to another, and no intervention was given to the control group [9]. Comparing the MI group to the other two, the results indicated that the MI group's members had the greatest oral health status and had seen the most improvement in terms of the number of decaying teeth.

It's crucial to practise and teach proper hygiene to young children, whether at home or in school. Including kids in their daily routines is the best approach to teach them healthy behaviours. The carer must complete this task until the youngster

is capable of doing so [10]. Frequent good hand washing helps to remove dirt and lower infection rates. The primary means of transmission for diseases are dirty or inadequately cleaned hands. Kids require direction and prompts to wash their hands before and after using the restroom, going outside to play, or interacting with animals. Children can begin washing their hands or themselves if a washbasin and stepstools are set up. Paper towels and liquid soap are what they ought to use [11].

The World Health Organisation (WHO) [12] states that hand washing promotion and education are two examples of hygiene interventions that can reduce diarrheal infections by up to 45%. The rate of infection is greatly decreased by teaching kids to wash their hands, which is typically the first line of defence against the transmission of many diseases. When asked if their students are aware of good hygiene habits, 45 (94%) said they have taught them about the advantages of good hygiene, while only 3 (6%) said they have not.

The handbook for Kenyan safety standards According to Republic of Kenya (2008), improper handling of liquid and solid waste can also cause health issues for students. Of the respondents, twenty-four (or 50%) said they teach their students how to wash their teeth and how important it is to do so, while the same number said they have not.

In underdeveloped nations, it's critical to maintain dental hygiene at all times, per UNICEF (2006). Food particles stuck between teeth decay quickly, leading to gum and tooth disease as well as poor breath, if dental care is neglected. After brushing the tooth, thoroughly rinse your mouth with plenty of water. You can use either pure water or water that has had some salt dissolved in it for mouthwash. When a toothbrush is not available, traditional brushes, such as the twigs of certain plants, might work well as stand-ins, especially in rural areas. The hairs in the nostrils of the nose, which is a component of the respiratory system, filter dust and bacteria out of the air. As a result, the nose acts as a barrier to prevent dangerous chemicals from entering the lungs and circulatory system. It should always be taught to preschoolers to blow their noses sometimes to clear the buildup of dust and spores, or to wipe their noses with a clean handkerchief. This will help to prevent or manage infection instances, which typically begin in the throat [13].

In this low-income setting, diarrheal disease has been linked to a variety of direct and indirect exposures to faecal oral transmission, such as contact with domestic animals [14], contaminated food [15], and contaminated home and public playground environments [16]. Thus far, the home environment has been the main focus of attempts to lower these exposures for children under five [17].

Why is it important to teach children good hygiene habits?

In addition to lowering the risk of illness and fostering a sense of security and safety in kids, teaching them proper hygiene practices offers further advantages [18,19].

- Children learn how to stay clean and fresh by learning how to stop the transmission of germs. In addition to having an impact on our health, good personal hygiene practices also have an impact on our capacity for work and social relationships [20].
- In the early years, practicing proper hygiene is something we do for our children and eventually becomes a self-skill. A child's confidence is increased as they acquire personal hygiene skills. It provides children with the means to grow up and take care of themselves [21].
- Developing appropriate hygiene and toileting practices is one facet of self-care abilities. Along with practicing these abilities, kids also practise other fundamentals of early learning, like language comprehension, gross and fine motor skills, sensory processing, and the capacity to adhere to basic routines.

Techniques for addressing personal habits and well-being: By putting into practice a variety of efficient methods to stop the spread of illness, educators can direct, model, and reinforce healthy lifestyle choices and personal hygiene practices with students. These methods include:

- Encouraging kids to practise self-care and self-help.
- Promoting good hygiene practices through playtimes and educational initiatives, as well as through everyday rituals including washing hands, eating meals, changing diapers, and using the restroom.

- Maintaining clean restrooms, kitchens, sleeping and rest places, and play areas.
- Posting signs and posters regarding hygiene practices at kid height in restrooms and play areas.
- Ensuring that toys and equipment are frequently cleaned, washed, and maintained.
- Putting into practice safe food handling, preparing, and storing procedures.
- Giving families written information regarding the suggested kid vaccination schedule as well as the windows of time during which infectious diseases and illnesses should be avoided.

3. CONCLUSION

In conclusion, regardless of sociodemographic variables, children who did not always practise proper hygiene had a higher chance of experiencing poor development. It has been demonstrated that environments that support improved hygiene practices enhance WASH behaviours and lower the incidence of infectious illnesses. The policy on hygiene and sanitation acknowledges that for educational systems to be successful, children's health and ability to learn must be guaranteed. Good health boosts enrolment, lowers absenteeism, and gets the most impoverished and disadvantaged kids into the classroom. Programmes for school food, sanitation, and hygiene are among the endeavours for these kids.

4. RECOMMENDATION

In order to guarantee that more time is allotted for hygienic practices, the study suggested that they be incorporated as an independent subject in the ECDE curriculum. Through integrating fundamental hygiene education into the curriculum, we promote the health and welfare of children. Through play and daily routines and rituals, self-help abilities are encouraged, giving youngsters practice in developing lifelong healthy hygiene habits. This study opens the doors of so many other studies visualize as study of hygiene practices carried by different ECCE centre and its impact on child development, study of hygiene Facilities availability in ECCE centres of rural and urban areas, accessing the knowledge and awareness of parents and ECCE personnel about impact of hygiene practices in early childhood development and many others. We can also plan awareness programmes for

parents and community regarding the impact of Hygiene practice in early childhood development.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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The peer review history for this paper can be accessed here:
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