



Sanitation and Hygiene Practices in Rural Communities in Ghana; The Case of Aowin Municipal.

Sabastian Samuel Kwesi^{1*}, Ishmael Twumasi², Gyimah.Peter³, Abraham Assumang¹, Maxwell Addo⁴, Joshua Amah Doku¹, Grace Tweneboah¹

¹Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development

³Kwame Nkrumah University of Science and Technology, ⁴Valley View University, ⁴University of Cape Coast.

*Corresponding Author's Email: sabastianskwesi@gmail.com

Abstract

Adequate water, sanitation, and hygiene (WASH) provision is an essential component of children's development. The challenges with water supply and sanitation services are increasing the risk of exposure to gastrointestinal infections such as diarrhea, disrupting students' attentiveness and productivity. Studies have shown that communities with adequate water supply, hygiene education, and sanitation services have lower rates of reported illness-related absence by 20 to 51% compared to those with inadequate water supply, hygiene education, and sanitation services. This study therefore seeks to assess sanitation and hygiene practices within the Aowin Municipality. A descriptive cross-sectional survey design was adopted for this study where a total sample size of eighty (80) was used. Primary data collection consisted of interviews and questionnaires. Data gathered from the study were analyzed using SPSS. Results of the study showed that toilet facilities available were VIP, recording the highest number of facilities in the area representing 25 percent, while pit latrines recorded the lowest at 13 percent. Other facilities recorded were water closets and public-use toilets. Additionally, the total majority of about 90 percent out of the total number of respondents practiced handwashing after visiting the toilet. Thirty-eight percent of the respondents washed their hands using sinks/taps within their dwellings, while 34 percent used mobile handwashing facilities such as "Buta." For solid waste disposal, the majority (29) used communal skip containers, followed by open dumping (25). Motorized tricycles recorded the lowest means of solid waste disposal. The rest were service providers, open burning, and dig and bury. It was concluded that sanitation and hygiene services in the surveyed community are still deficient and not fully in compliance. It is therefore recommended that financial resources and technical support are needed.

Keywords: Sanitation, Hygiene Facility, Water

Introduction

Background of the study

The provision of adequate water, sanitation, and hygiene (WASH) services is crucial for children's development. The WASH program strives to safeguard children's rights to survival and development by ensuring fair access to safe water and sanitation services, promoting hygienic behavior through education, and fostering supportive environments. This empowers children to advocate for improved water, sanitation, and hygiene practices in their families and



communities, thereby reducing microbial contamination and preventing infectious disease transmission among students and staff (UNICEF, 2012).

In many developing countries, studies have shown that the likelihood of schoolchildren acquiring infections in densely populated urban areas is higher due to the lack of adequate WASH services in two-thirds of schools (Babalobi, 2013; Sibiya & Ray Gumbo, 2013). Globally, around 1.8 million deaths occur annually from diarrheal illnesses, with 1.62 million (90%) affecting children. Unsafe water supply and inadequate sanitation services account for 88% of these cases, imposing significant economic burdens on families and societies due to tertiary healthcare costs (Adams, Bartram, Chartier, & Sims, 2009). Inadequate water supply and sanitation services in schools further increase the risk of children's exposure to gastrointestinal infections such as diarrhea, disrupting students' attentiveness and productivity (Jasper, Le, & Bartram, 2012).

The WASH program aims to safeguard children's rights to survival and development by ensuring equitable access to safe water and sanitation services, improving hygienic behavior through education, and fostering supportive environments. This enables children to become agents of change for improving water, sanitation, and hygiene practices in their families and communities, ultimately reducing microbial contaminations and preventing infectious disease transmission among students and staff (UNICEF, 2012). According to the Centers for Disease Control and Prevention (CDC), WASH interventions can prevent 9.1% of the global disease burden and 6.3% of mortality cases, particularly in developing countries (CDC, 2013). Currently, more than 90 countries are implementing WASH programs in schools. However, many developing countries face challenges in managing WASH programs sustainably. Hence, UNICEF, in collaboration with WHO, has developed guidelines to ensure the sustainability and continual development of these programs (Adams, Bartram, Chartier, & Sims, 2009; UNICEF, 2008). WASH programs in schools are crucial steps toward ensuring a healthy learning environment.

Government officials can play a pivotal role by advocating for WASH programs in parliament, setting minimum standards, allocating financial resources, monitoring coverage and progress, and fostering cooperation between relevant ministries such as the Ministry of Education and Finance to design appropriate measures and enforce them by regularly monitoring and evaluating WASH activities in schools (UNICEF, 2008). Moreover, NGOs and community members can also assist in maintaining a clean, safe, and healthy school environment by encouraging children to adopt improved hygienic behavior through various WASH activities. Like many developing countries, Ghana faces several challenges in sustaining proper water, sanitation, and hygiene services in schools (UNICEF, 2018).

Although the combined roles of safe water and adequate hygiene and sanitation in reducing diarrheal and other diseases are clear and well-documented, there is uncertainty and even debate over the magnitude of the contribution of safe water to this outcome (Esrey *et al.*, 1985; 1991). Some studies have suggested that improved hygiene and sanitation are more important than safe water in reducing diarrheal and other waterborne and water-washed diseases (US Agency for International Development, 1993). In the minds of some, the provision of safe water alone is unlikely to result in reductions of diarrheal and other infectious diseases. This is because the other transmission routes of these potentially waterborne diseases, such as person-to-person contact, food, fomites, and vectors, are not being controlled and continue to be major sources of pathogen transmission.

Inadequate water supply and sanitation services are increasing the risk of children's exposure to gastrointestinal infections such as diarrhea, disrupting students' attentiveness and productivity (Jasper, Le, & Bartram, 2012). The proportion of reported deaths attributed to unsafe water supply, inadequate sanitation, and poor hygiene in children under 14 years of age is more than 20% (CDC, 2013). Their vulnerability is mainly due to their underdeveloped immune response against pathogens and lower body weight, inducing immediate infections at low doses. Research indicates that adequate WASH in communities could prevent diarrheal and gastrointestinal diseases (Chirgwin, 2021). It is estimated that almost 94% of the causes of diarrheal diseases are characterized by environmental factors, including unsafe drinking water, poor sanitation, and hygiene (Afzal & Nasir, 2021). For example, in 2012, out of the total 1.5 million diarrheal-related deaths that were reported, an estimated 502,000 and 280,000 deaths were associated with inadequate water and sanitation, respectively (Pacheco *et al.*, 2021).

According to a UNICEF report, involving children themselves as active participants in promoting handwashing with soap in schools creates in the children a sense of ownership that makes new behaviors more likely to be adhered to



(UNICEF, 2008). Therefore, key hygiene habits such as good handwashing practices that are likely to be taken further into adulthood can be adopted by encouraging millions of school children to engage in these good repetitive, non-reflective behaviors (Winter *et al.*, 2021). The Sustainable Development Goals (SDGs) ensure the availability and sustainable management of water and sanitation, which are discussed in Goal 6 and composed of six targets (UN, 2015). WASH is a major factor when addressing issues related to children's mortality rate. Since inadequate and unsafe water, poor sanitation, and improper hygiene services increase children's exposure to gastrointestinal infections such as diarrhea, resulting in 801,000 mortalities per year among children less than 5 years of age (CDC, 2013). This will negatively impact the economic growth of families and societies, mentioned in Goal # 8, target # 1 due to an increase in tertiary health care costs, particularly in developing countries that witness a higher proportion of diarrheal morbidity and mortality reported cases (UN, 2015; Adams, Bartram, Chartier, & Sims, 2009). Besides, there are strong relations between WASH and social and economic development of communities. Poor hygiene, water, and sanitation intensify poverty by reducing productivity and elevating health-care costs (Ready, 2010). On the other hand, a potential return of \$5.50 and \$2.00 can be reached for every one dollar spent on improved sanitation and water, respectively, amounting to \$60 billion in total global return (Hutton, 2012).

Studies showed that schools with adequate water supply, hygiene education, and sanitation services showed lower rates of reported illness-related absence by 20 to 51% compared to schools with inadequate water supply, hygiene education, and sanitation services, which witnessed an increase in school absenteeism by 5% (Freeman, *et al.*, 2012; Reilly, *et al.*, 2008). This study therefore seeks to assess sanitation and hygiene practices within the Aowin Municipality. This research will provide baseline information to stakeholders.

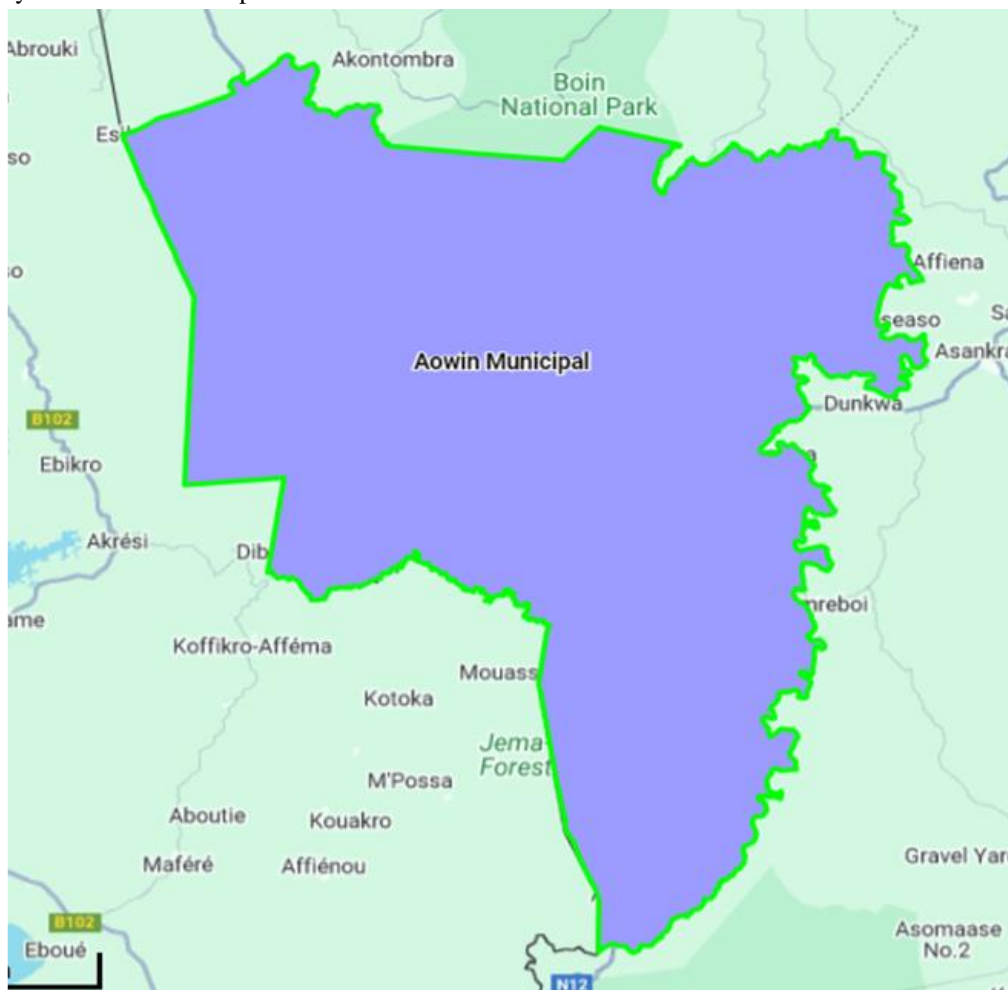


Figure 1: Map of Aowin Municipal



Methodology

The Study Area

Location and size of the study area

The Aowin Municipal District, situated in the Southern part of the Western North Region of Ghana, is one of nine districts in the region. Its history traces back to its establishment as part of the larger Aowin/Suaman District in 1988, which was carved out of the former Aowin-Amenfi District Council. Notably, on 16th November 2017, the Aowin district was elevated to municipal status, officially becoming the Aowin Municipal District on 15th March 2018. The district's administrative center is Enchi, serving as its capital town.

Data Collection

Study design

A descriptive cross-sectional survey design was adopted for this study.

Sampling and Sample Size

The study focused on households within the Aowin Municipality, encompassing both male and female participants. A total sample size of one hundred and sixty (160) respondents was selected through interviews to effectively represent the broader target population.

Sampling method

The simple random sampling technique was employed to select the respondents.

Data Collection Procedure

The study employed a cross-sectional research method to gather information from both primary and secondary data sources. Primary data collection involved interviews and questionnaires administered to participants. Specifically, questionnaires served as the primary instrument for collecting data on water, sanitation, and hygiene practices in the Aowin Municipality.

In addition to primary data, secondary data sources were also utilized. These sources included articles, books, internet resources, and reports containing relevant information on water, sanitation, and hygiene. This comprehensive approach enabled the study to gather a wide range of data to address its research objectives effectively.

Data Analysis

Data gathered from the study were analysed using SPSS. Qualitative data of the study were checked to ensure uniformity for the forms of methods employed. The qualitative data was again grouped into similar themes based on the objectives of the study and coded.

Results and Discussion

Demographic Characteristics of Respondents

The demographic characteristics considered in the study included age, sex, educational status, and occupation. The descriptive statistics provided in Table 1 show that the majority of the respondents, representing 40% fell within the age range of 30-39 years, followed by (25%) in the age range of 40-49 years. Respondents aged 50 years and above accounted for 26 (17%) of the total. In terms of gender distribution, most respondents were females, constituting 110 (68%), while males accounted for 50 (32%).

Regarding educational status, the majority of respondents had received formal education. Specifically, 52 (32%) had completed primary education, followed by 46 (28%) with Junior High School (JHS) education, and 24 (15%) with Senior High School (SHS) education. Additionally, 26 (16%) respondents had attained.

Table 1: Demographic characteristics of respondents

| Demographics | | Frequency | Percentage (%) |
|-------------------|--------------|------------|----------------|
| Sex | Male | 50 | 32 |
| | Female | 110 | 68 |
| | Total | 160 | 100 |
| Occupation | Farming | 70 | 44 |



| | | | |
|--------------------------|--------------|------------|------------|
| | Trading | 40 | 25 |
| | Teaching | 16 | 10 |
| | Student | 14 | 9 |
| | Others | 20 | 12 |
| | Total | 160 | 100 |
| Age | 20-29 | 30 | 18 |
| | 30-39 | 64 | 40 |
| | 40-50 | 40 | 25 |
| | Above 50 | 26 | 17 |
| | Total | 160 | 100 |
| Educational level | Primary | 52 | 32 |
| | JHS | 46 | 28 |
| | SHS | 24 | 15 |
| | Tertiary | 26 | 16 |
| | No Education | 14 | 9 |
| | Total | 160 | 100 |

Source: Field Survey, 2023

Availability and Types of Sanitation Facility

According to (UNICEF, 2012), toilets should be sufficient, easily accessible, gender specific, private, secure, clean, properly ventilated, and should have water-basins in close proximity for handwashing with running hot and cold water, soap and tissue paper. This study accessed the toilet facilities available in the study area of which the following data were recorded. VIP recorded the highest number of facilities in the area representing 25 percent while pit latrine recorded the lowest. 13 percent. Other facilities recorded were water closet, and public use toilets as depicted in Figure 2

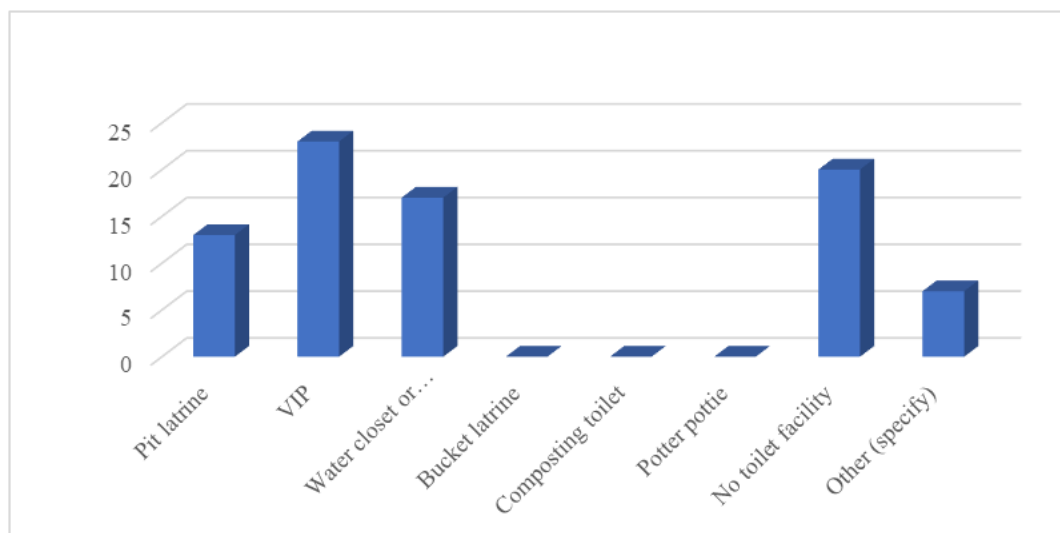


Figure 2: Toilet facilities used by respondents.

Hand washing practice

Regular handwashing is one of the best ways to remove germs, avoid getting sick, and prevent the spread of germs to others. Whether you are at home, at work, traveling, or out in the community, find out how handwashing with soap and water can protect you and your family. The result in Figure 3 shows that the total majority of about 90 percent of



the number total number of respondents practice handwashing after visiting the toilet. 38 percent of the respondent wash their hands using sinks/taps within their dwellings while 34 percent use mobile handwashing facilities.

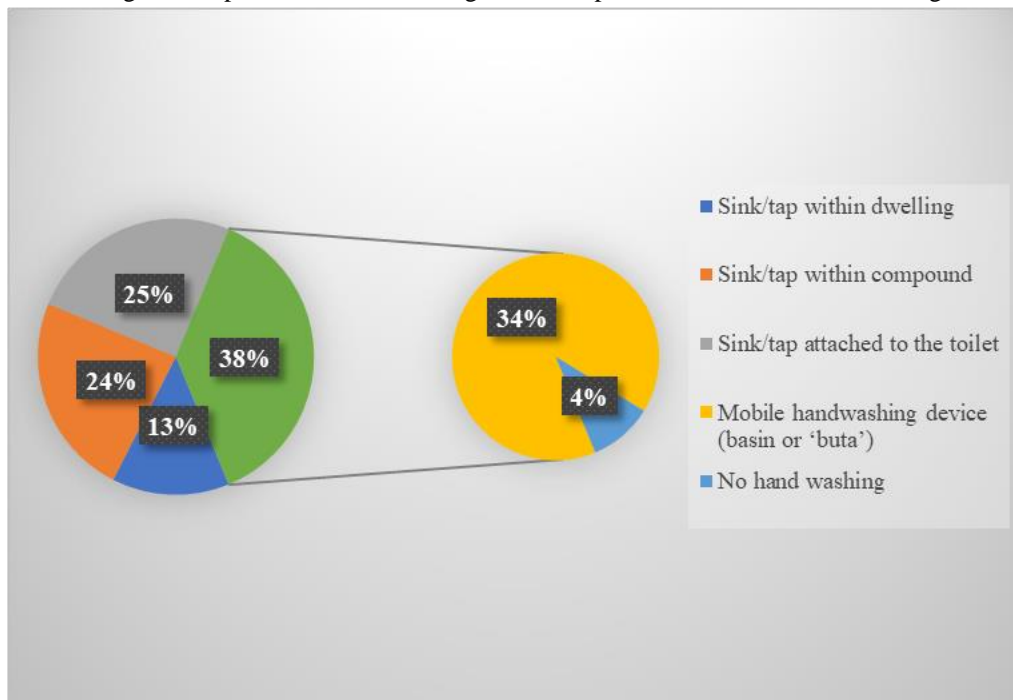


Figure 3: Hand washing practice by respondent.

Menstrual Hygiene Management

Menstrual hygiene management or menstrual health and hygiene refers to access to menstrual hygiene products to absorb or collect the flow of blood during menstruation, privacy to change the materials, and access to facilities to dispose of used menstrual management materials. (Ledgerwood *et al.* 2013) materials use in managing menstrual hygiene contribute significantly to solid waste within an area. The study assessed management of menstrual hygiene product, particularly sanitary pads. it was revealed as shown in Figure 4 that, almost all respondents (90 percent) do not dispose their used sanitary pads properly.

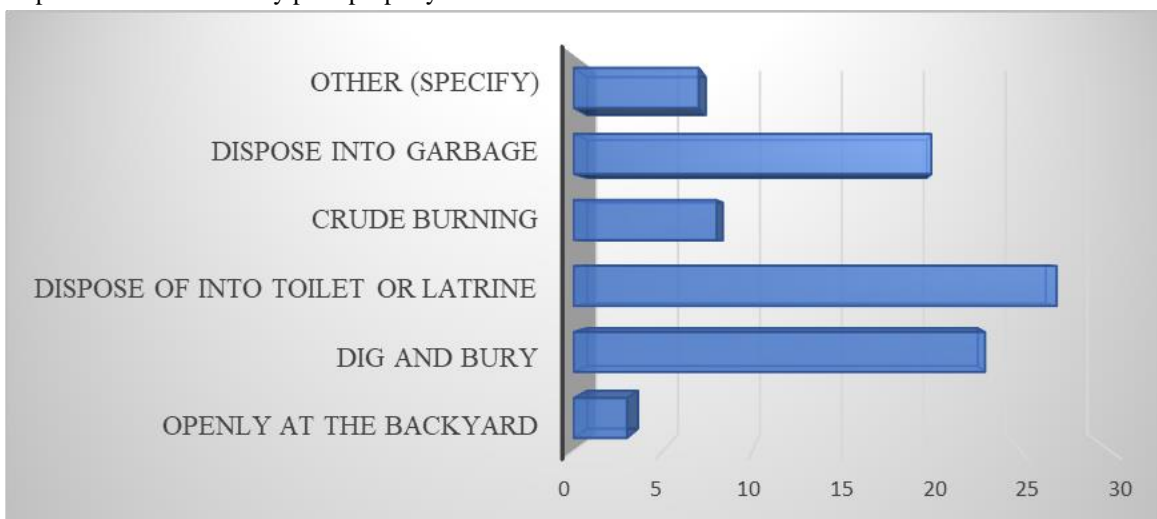


Figure 4: Menstrual hygiene management.

Solid Waste Disposal

Waste management is one of the constant needs of a society that must be done daily and without interruption. The workforce is one of the essential municipal solid waste management needs from collection to final disposal, making their presence the necessary sector for providing municipal services. In other to determine how waste is disposed of within the area, the study accessed the situation and the response was the majority (29) of Communal skip containers, followed by Open dumping (25). Motorized tricycles recorded the lowest means of solid waste disposal. The rest were; service providers, Open burning, and dig and bury (Figure 5)

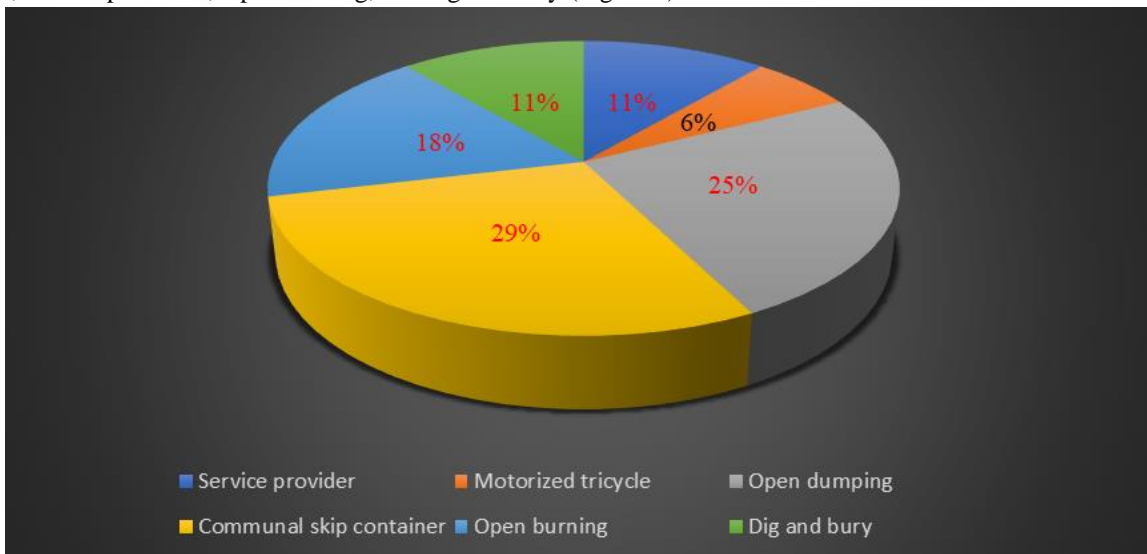


Figure 5: Means of Solid waste disposal

Discussion

In 2017, UNICEF reported a staggering statistic: more than 340,000 children worldwide succumb annually to diarrhoea and related illnesses stemming from inadequate sanitation conditions (WHO et al., 2019). This alarming trend is particularly prevalent in many countries within the sub-region, where access to basic Water, Sanitation, and Hygiene (WASH) facilities remains limited. However, the findings of this study present a stark contrast, as a significant majority of respondents reported having access to toilet facilities in their households. Furthermore, the study indicates that most respondents engage in regular handwashing practices, suggesting that these facilities are not only available but also actively utilized.

Menstrual hygiene management, or menstrual health and hygiene, refers to the accessibility of menstrual hygiene products for absorbing or collecting menstrual blood, ensuring privacy for changing materials, and providing access to facilities for the disposal of used menstrual management materials (Ledgerwood et al., 2013). However, the materials used in managing menstrual hygiene significantly contribute to solid waste within communities. The study highlights a concerning aspect of menstrual product management, as disposal methods are limited to options such as flushing them down toilet facilities, burying them, or resorting to crude burning. According to UNICEF (2019), these disposal practices can lead to clogged pipes and sewage backflow into buildings, posing serious health risks.

Waste management represents an ongoing necessity within society, requiring daily and uninterrupted attention. The workforce involved in municipal solid waste management plays a crucial role in ensuring the provision of municipal services, from collection to final disposal. However, the study identified a challenge faced by community members that aligns with the findings of D. Gyabaah et al. (2023), which underscore the persistent struggle with proper municipal solid waste management in developing countries due to factors such as inadequate policies and non-enforcement of existing regulations. Once generated, solid waste may undergo alterations in its characteristics based on the management techniques employed, potentially posing significant health and environmental hazards (Ferronato et al., 2019).



Conclusion

This paper contributes to the literature on the need to establish a functional community WASH system by assessing the status of WASH infrastructure in the Aowin Municipality, Ghana. Our findings show that the Municipality currently has some sort of WASH facilities in place, thereby largely meeting the availability criteria. As waste is a known major source of heavy metals, hazardous chemicals, and diseases related to the skin, respiratory system, and intestines, the study assessed sanitation and hygiene practices within the Aowin Municipality. Results indicated that the majority responded positively to the use of handwashing facilities attached to or within the toilet facilities. Additionally, menstrual hygiene materials were recorded to be disposed of appropriately.

For proper water sanitation and hygiene practices (WASH), it is important to provide handwashing facilities and soap to prevent diseases. However, respondents also positively acknowledged having handwashing facilities at their households.

Recommendations

Sanitation and hygiene services in the surveyed community are still deficient and not fully in compliance. This may mostly be due to the limited allocated financial resources and deficient technical support needed to upgrade WASH facilities and sustain services. Since sanitation is a major concern for the nation, the following recommendations are made:

- There is a need to develop an implementation priority plan that prioritizes short-term, intermediate, and long-term WASH interventions. Short to intermediate interventions would include mitigating maintenance and repair of WASH facilities, addressing broken latrines and water fixtures, and maintaining onsite water treatment units.
- Increase funds and allocate sustainable resources to upgrade and sustain WASH services in the community.
- Empower the general public with the needed technical expertise to monitor, manage, and maintain WASH facilities quickly and effectively without reliance on external resources that may be neither reliable nor sustainable.
- Mobilize stakeholders (local and international NGOs, water authorities, community, and municipality) to contribute to the provision and sustainability of WASH programs in private schools. More toilet facilities should be erected on school premises to prevent students from open defecation.

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