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Levels of Awareness and Practices on Sanitation and Personal Hygiene among Residents of Geographically Isolated and Disadvantaged Areas in Davao City

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Abstract

This study examined the awareness and practices of sanitation and personal hygiene among residents of Geographically Isolated and Disadvantaged Areas (GIDA) in the Paquibato District, Davao City, Philippines. The study utilized the predictive-correlational research design. Data were collected using the UNICEF's Multiple Indicator Cluster Surveys (MICS) (UNICEF, 2019), the Demographic and Health Surveys (DHS) Program (The DHS Program, 2020), the Global Handwashing Partnership KAP Survey (Global Handwashing Partnership, 2020), and WaterAid's Sanitation and Hygiene Survey Toolkit (WaterAid, 2019). The study involved 129 conveniently selected GIDA residents. The findings revealed a strong awareness of essential practices such as hand washing, water treatment, and waste management. However, significant gaps were identified between knowledge and actual practices, particularly regarding waste management and clean water access. A notable positive correlation was established between knowledge and hygiene behaviors, which suggest that increased knowledge on sanitation and personal hygiene, enhances their practices. This underscores the critical role of education in promoting community health. Sustained improvements in sanitation behavior and overall health can only be achieved through the active participation of the community, the implementation of sustainable technologies, and the continued support of health education initiatives.

Keywords: *Social Science*, *Sanitation and Personal Hygiene, Predictive-Correlational, Paquibato District, Davao City*

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Introduction

Sanitation and personal hygiene play vital roles in promoting public health and enhancing community well-being. However, in Geographically Isolated and Disadvantaged Areas (GIDA), remoteness often leads to limited access to essential services, causing many residents to face considerable difficulties in securing clean water and suitable sanitation facilities. Involving community members in sanitation initiatives fosters local pride and enables customized solutions that align with their specific needs (Davis & Pahl-Wostl, 2021). Recent research has focused on technological interventions that provide clean water, revealing that low-cost solutions can significantly reduce illnesses associated with poor sanitation, thereby improving residents' overall health (Nabhan et al., 2022).

Further emphasis is placed on the necessity for sustainable infrastructure investments in GIDA regions, as low income frequently contributes to sanitation issues. Inadequate facilities lead to enduring hygiene challenges and heightened cases of waterborne diseases. Consequently, it becomes essential to bridge the gap between awareness and practices regarding sanitation and hygiene (Agboola et al., 2022). Recent global studies underscore the critical importance of sanitation and hygiene for health and well-being. For instance, one study indicates a robust correlation between improved sanitation facilities and reduced morbidity rates related to waterborne diseases (Friedrich et al., 2020). Sanitation interventions further indicate considerable benefits for public health, particularly in impoverished communities (Wang et al., 2021). A systematic review highlights that community-led sanitation programs effectively enhance both knowledge and practice, thus improving hygiene outcomes (Kearney et al., 2021). According to a meta-analysis, significant investments in sanitation infrastructure can notably decrease the prevalence of sanitation-related diseases in developing countries (Zomer et al., 2022). Moreover, culturally sensitive approaches to hygiene education have proven to enhance acceptance and practice within local populations (Aturinda et al., 2020).

In the Philippines, the urgency for improved sanitation and hygiene is further illuminated by the Philippine Statistics Authority, which reported that around 4 million families lack access to proper sanitation, raising pressing public health concerns (Philippine Statistics Authority, 2021). Research has shown that residents in GIDA areas often depend on traditional practices, which hinder the adoption of modern methods (Salas et al., 2021). While some households have basic handwashing facilities, only a small percentage enjoy reliable access to water and soap necessary for effective hygiene (de Vera et al., 2021). Additionally, investigations suggest that local public health interventions have experienced limited success due to community mistrust and a lack of sufficient awareness-raising initiatives (Reyes et al., 2022). Therefore, this study aims to evaluate the awareness and hygiene practices related to sanitation and personal hygiene among residents of Paquibato District, a GIDA with distinct challenges. The research focuses on assessing residents' understanding of the importance of sanitation and personal hygiene, and how this awareness influences their daily practices. Ultimately, this study identifies crucial areas for educational interventions to enhance public health outcomes. It also highlights the need for in-depth investigations of sanitation practices and cultural factors (Padua et al., 2021; Alava et al., 2022) and advocates for studies that evaluate the effectiveness of community-based health education initiatives (Dela Cruz et al., 2021).

Methods

This study employed a predictive-correlational research design aimed at examining between the level of awareness regarding sanitation and personal hygiene, as well as the corresponding health practices of residents in Geographically Isolated and Disadvantaged Areas (GIDA) located in Davao City, Philippines. The predictive nature of the approach was intended to forecast how variations in awareness levels could influence hygiene practices. By analyzing data related to both awareness and practices, specific patterns were identified that indicated correlations, leading to trends that informed public health interventions. This aligns with the understanding that awareness can influence health behavior changes and is rooted in social cognitive theory (Bandura, 2022). Insights into how awareness affects intentions and behaviors also support the theory of planned behavior (Ajzen, 2022). Behavioral science principles suggest that the interaction between awareness and health practices can foster more effective

public health interventions (Glanz & Bishop, 2022).

Understanding how awareness affects intentions and behaviors supports the theory of planned behavior (Ajzen, 2022). According to behavioral science principles, the interplay between awareness and health practices can lead to more effective public health interventions (Glanz & Bishop, 2022).

The research was conducted in the Paquibato District of Davao City, a location deemed appropriate for studying sanitation and personal hygiene practices because of its classification as a geographically isolated and disadvantaged area (GIDA) with limited access to essential services. The district's remote geography and challenging terrain made it representative of typical GIDA communities, where residents face considerable barriers to accessing healthcare, education, and clean water (Department of Health, 2020). Furthermore, Paquibato is home to a diverse population, with various cultural backgrounds that significantly influence their hygiene practices (National Commission on Indigenous Peoples, 2021).

A total of 129 residents were selected using a convenient, non-probability sampling technique. This method was designed to consider participants' accessibility, availability, and willingness to participate in research (Grove & Grey, 2019). To maintain the focus of the investigation, individuals living outside the district or opting not to participate were excluded. The study's respondents consisted of GIDA residents in the Paquibato District of Davao City, with criteria ensuring that participants had resided in the district for a minimum of one year and were at least 18 years old. Additionally, face-to-face interviews were incorporated as an effective method for collecting qualitative data.

Data for the study were collected using a comprehensive approach designed to capture nuanced insights into the community's comprehension of hygiene practices. The questionnaire was adapted and modified from UNICEF's Multiple Indicator Cluster Surveys (MICS) (UNICEF, 2019), ensuring relevance and suitability for the respondents. Responses were evaluated using a 5-point Likert scale, which enabled thorough analysis of participants' awareness and practices related to sanitation and personal hygiene. Prior to the study, a reliability test utilizing Cronbach's alpha was conducted to confirm the credibility and consistency of the questionnaire, yielding satisfactory reliability levels. This methodology facilitated nuanced insights into community hygiene practices and aimed to inform local health initiatives while driving improvements in sanitation education and resources within GIDA communities. The researcher utilized a questionnaire derived from UNICEF's Multiple Indicator Cluster Surveys (MICS) (UNICEF, 2019) to assess participants' awareness of sanitation and personal hygiene, which included a 5-point Likert scale with a Cronbach alpha of 0.904, indicating high reliability.

The second portion of the questionnaire involved tools developed by the W.A.S.H. Survey Toolkit (WaterAid, 2019) and the Global Handwashing Partnership (2020) to assess respondents' levels of sanitation and personal hygiene practices using a 5-point Likert scale. This section yielded a Cronbach alpha of 0.937, confirming that the tool was highly reliable. Both modified versions of the questionnaires (awareness and practices concerning sanitation and personal hygiene) underwent pilot testing (N=30) and were validated by three experts for the Content Validity Index (S—CVI/Ave=1.00). This rigorous methodology ensured the reliability and validity of the instruments used to measure awareness and practices in the target population, thereby enhancing the robustness of the study's findings and contributing to a deeper understanding of health behaviors within GIDA communities.

Results and Discussion

Table 1. Level of Awareness on sanitation and personal hygiene among residents in GIDA

	Statement	Mean	SD	Interpretation
1.	I understand what the term "sanitation" means.	4.31	.51	Very High
2.	I believe sanitation is important for health.	4.39	.65	Very High
3.	I am aware of common diseases caused by poor sanitation.	4.37	.53	Very High
4.	I frequently wash my hands with soap	4.37	.53	Very High
5.	I regularly dispose of household waste in a proper manner (e.g., recycling, composting, or using designated bins)	4.26	.62	Very High
6.	I am aware of local waste management programs available in my area	4.25	.559	Very High
	Over-all	4.25	.40	Very High

Legend:1.00(Very Low);1.81-2.60(Low);2.61-3.40(Moderate);3.41-4.20(High);4.21-5.00(Very High)

The mean score of 4.39 for the statement "I believe sanitation is important for health" indicates that the majority of respondents generally agreed, reflecting a positive perception regarding the significance of sanitation for health promotion. This score demonstrates that residents recognize the connection between sanitation practices and health outcomes, though it also suggests some uncertainty regarding the extent of sanitation's impact. The results highlight the necessity for initiatives focused on enhancing residents' knowledge about sanitation, particularly its direct health implications.

In recent studies, several factors impacting community sanitation were identified. For example, environmental challenges such as access to clean water and efficient waste disposal systems significantly influence sanitation behaviors (Matthews, 2023). Additionally, inadequate sanitation not only leads to physical health issues but can also exacerbate mental health concerns, including stress and anxiety (Bell, 2023). These findings underscore the need for public health discussions to encompass psychological factors alongside physical health. Cultural perceptions also play a vital role in shaping sanitation behaviors, with research indicating that interventions respecting local beliefs can enhance acceptance and efficacy (DeYoung, 2022).

Furthermore, while residents of Geographically Isolated and Disadvantaged Areas (GIDA) in Paquibato District strongly agree on the importance of sanitation, they often show a lack of understanding regarding local waste management programs. Despite acknowledging the programs' existence, many do not practice the waste management policies, indicating a significant gap in awareness and engagement.These results suggest the need for targeted educational interventions to empower residents and improve participation in sanitation practices (Thorne & Campbell, 2022). Effective sanitation initiatives require collaboration among various stakeholders, highlighting the importance of tailored communication strategies that resonate with community values. Recognizing these interconnected factors can lead to more sustainable sanitation outcomes and improved public health.

Table 2. Level of Practices on Sanitation and Personal Hygiene among residents in GIDA

	Statement	Mean	SD	Interpretation
1.	I believe it is important to wash my hands at critical times (e.g., before eating or after using the toilet)	4.43	.59	Very High
2.	I have access to clean water for hand washing	4.45	.57	Very High
3.	I use soap for personal hygiene	4.46	.55	Very High

4.	I have a reliable primary source of drinking water	4.27	.71	Very High
5.	I frequently collect water as needed for daily use	4.29	.62	Very High
6.	The type of toilet facility I use meets my needs	4.31	.70	Very High
7.	The distance to the nearest toilet facility is manageable for me	4.22	.83	Very High
8.	I have enough water available for hygiene purposes (e.g., handwashing, cleaning)	4.53	.50	Very High
	Overall	4.37	.45	Very High

nd: 1.00(Very Low);1.81-2.60(Low);2.61-3.40(Moderate);3.41-4.20(High);4.21-5.00(Very High)

The findings regarding the accessibility of toilets revealed that many households struggle with unmanageable distances to toilet facilities, affecting their overall sanitation and hygiene practices. Specifically, some households lack direct access to toilets, forcing them to rely on public facilities. This aligns with respondents' perceptions that the distance to the nearest toilet is not manageable, resulting in the lowest mean score among the survey items. A study in 2022 highlighted the importance of recognizing the right to sanitation as a fundamental human right and advocated for equitable access to toilet facilities (Rahman, 2022). Additionally, research in behavioral economics points out that perceptions of inconvenient toilet distances significantly influence sanitation behaviors (Young, 2023). Conversely, a high mean score for access to clean water indicates that residents of the Paquibato District understand the importance of clean water for personal hygiene and sanitation. Access to clean water and effective waste management systems is essential for promoting hygiene (Bambra, 2020). Despite socio-economic challenges, many households in Paquibato maintain good hygiene practices, with residents committed to regular handwashing and toilet maintenance, which enhances community health outcomes (Williams, 2021).

The overall high scores for sanitation and hygiene practices among respondents reflect their active engagement in health-oriented behaviors, indicating a solid foundation for public health in GIDA areas. However, inconsistencies still persist, such as some households lacking toilet facilities. Many residents supplement their water sources by purchasing from local refilling stations to meet sanitation needs.

The community's participation in clean-up activities demonstrates a commitment to maintaining their environment and promoting health.The significance of effective sanitation practices is underscored, as they are crucial in reducing the incidence of waterborne diseases (Santos, 2023). The research highlights that tailored public health initiatives, which consider local contexts and engage residents, can lead to improved health outcomes and foster a sense of ownership in community sanitation efforts (O'Neill, 2023).

Table 3: Test of Relationship between the Level of Awareness and the Level of Practices on Sanitation and Personal Hygiene among residents in GIDA

Independent Variable	**Practices**			
	r_s	**p-value**	**Remarks**	**Decision**
Awareness	0.671	0.000	Significant	Reject Ho_1

Note: p-value < 0.01(Significant); IV-awareness

The results indicate a positive and significant relationship between the level of awareness and the level of practices concerning sanitary and personal hygiene among residents of Geographically Isolated and Disadvantaged Areas (GIDA). This relationship suggests that as

awareness increases, so too does the likelihood of engaging in healthy practices. Research consistently supports the existence of this significant link; individuals with higher levels of awareness are more likely to adopt healthier sanitation behaviors. In the context of rural GIDA settings, educational initiatives play a substantial role in enhancing sanitary practices.In a study by Ahmed et al. (2022), individuals exposed to awareness campaigns on hygiene demonstrated marked improvements in their behaviors, underscoring the importance of community education. Additionally, research highlights that educational interventions promoting awareness can lead to a substantial reduction in sanitation-related diseases, directly impacting public health outcomes (Kumar & Jain, 2023). Individuals' perceptions of susceptibility and severity significantly influence their adoption of health-promoting behaviors, demonstrating that knowledge about health risks motivates individuals to make healthier choices (Rosenstock, 2023).

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Informed individuals more easily recognize the benefits of preventive measures, leading to increased compliance with health recommendations (Becker, 2023). Moreover, cues to action are essential for encouraging individuals to adopt health-promoting behaviors (Janz & Becker, 2023). However, while higher awareness correlates with improved practices, challenges remain. Barriers such as limited access to resources and the perceived severity of health risks can prevent effective implementation of sanitary practices. Social and economic factors heavily influence health outcomes, highlighting the necessity of addressing these foundational issues through increased awareness (Marmot, 2022). To facilitate behavioral change among residents in GIDA, it is proposed that tailored programs aimed at enhancing hygiene knowledge could be beneficial. Such initiatives would equip residents to transition from awareness to the consistent practice of improved sanitation habits (Prochaska & Velicer, 2022).

Table 4: Test of Influence between the Level of Awareness on Sanitation and Personal Hygiene and the Level of Practices on Sanitation and Personal Hygiene among residents in GIDA

Occupational Self-efficacy	Observed Estimate	Bootstrap Std. error	z	p-value	Decision	Remarks
Mean Practices Effect	4.369	0.047	93.06			
Task-oriented Activities	1.045	0.217	4.810	0.000	Reject Ho_2	Significant

Legend: p-value ≤ 0.05(Significant); r-squared = 0.4926

The study revealed a significant positive correlation between awareness of sanitation and personal hygiene and the practices adopted by residents in Geographically Isolated and Disadvantaged Areas (GIDA), particularly in the Paquibato District of Davao City, Philippines.This correlation underscored the pivotal role that increased awareness plays in enhancing hygiene practices among

marginalized communities, as quantitative data indicated that awareness programs led to improved health metrics and reduced health risks related to inadequate sanitation facilities. These findings align with existing literature emphasizing the necessity of educational initiatives in fostering healthier behaviors among community members (Rogers, 2022). In GIDA, where access to health resources is limited, heightened awareness of proper hygiene practices can mitigate the adverse health effects of poor sanitation. Employing local leaders as change agents within these programs effectively facilitated community understanding of sanitation benefits, fostering acceptance and daily application of effective practices. The research also highlights the importance of engaging community members in discussions and workshops, empowering them to evaluate the quality of health information and instilling greater confidence in making informed health choices (Zarcadoolas et al., 2022). This empowerment, underpinned by the Social Determinants of Health framework, illustrates how addressing social and economic factors can lead to substantial improvements in hygiene practices and health outcomes (Marmot, 2022).

Fostering a culture of hygiene and sanitation not only diminishes disease transmission risks but also equips residents with the knowledge necessary for sustained health practices. Additionally, incorporating community feedback into health initiatives promotes tailored messaging that resonates with residents' concerns, fostering social cohesion as they collectively invest in their health. Continued evaluation of these tailored interventions is essential for maintaining their effectiveness and adaptability over time.

Conclusion

This research underscores the pressing need for enhanced sanitation and hygiene awareness among residents of Geographically Isolated and Disadvantaged Areas (GIDA), particularly in relation to local waste management programs. Educational interventions aimed at closing this awareness gap are essential for empowering residents to engage in effective waste management practices, which can significantly improve public health outcomes. The findings indicate a strong commitment to sanitation and personal hygiene among GIDA residents, despite challenges such as limited access to toilet facilities. Moreover, community awareness and engagement, coupled with access to clean water, prove crucial in promoting public health. While residents demonstrate dedication to improving sanitation practices, further efforts are needed to enhance infrastructure and foster community engagement, ultimately supporting health initiatives and promoting sustainable practices.

To effectively address these challenges, GIDA residents should actively participate in ongoing health education programs and community workshops focused on sanitation and personal hygiene. Engaging in these activities will not only enhance their understanding of health practices but also empower them to advocate for better health services. Additionally, encouraging residents to form community groups can help collectively address health issues, fostering a stronger sense of agency and collaboration. This shared responsibility in public health will create a resilient network capable of effectively responding to health challenges. By facilitating the sharing of experiences, these groups can inform local health strategies to ensure services meet the actual needs of the population.

Healthcare workers play a critical role and must prioritize building relationships with GIDA residents through regular community outreach initiatives and by actively listening to their health concerns. Developing training programs that equip healthcare workers to deliver culturally sensitive care that respects traditional practices is essential. Actively involving residents in health interventions fosters trust and strengthens partnerships, ultimately enhancing health outcomes. Furthermore, Rural Health Units (RHUs) should leverage insights gained from this study to refine health programs tailored to the specific needs and cultural practices of the GIDA community. Collectively, these collaborative approaches will lead to lasting improvements in health outcomes, empower individuals to take responsibility for their well-being, and ensure that health initiatives are more effective and sustainable over time.

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