PREVENTIF: JURNAL KESEHATAN MASYARAKAT
FAKULTAS KESEHATAN MASYARAKAT UIVERSITAS TADULAKO
http://jurnal.fkm.untad.ac.id/index.php/preventif
ISSN (P) 2088-3536 ISSN (E) 2528-3375

Environmental Health Implementation Strategies in GEDSI-Friendly Health Facilities: Towards Inclusive and Equitable Services

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ABSTRACT

Inclusive health services are vital for ensuring equitable access, especially for vulnerable groups such as women, persons with disabilities, the elderly, and children. However, environmental health (Kesling) strategies in many health facilities still emphasize technical aspects, often neglecting gender, disability, and social inclusion (GEDSI). This qualitative study aimed to explore GEDSI-responsive Kesling strategies through Focus Group Discussions (FGDs) involving 33 environmental health officers from various institutions. Data were collected from group discussions, observational notes, and documentation of strategy proposals. Using thematic analysis, three main themes were identified: (1) gender responsiveness, (2) disability inclusion, and (3) social inclusion. Proposed interventions included gender-neutral toilets, menstrual hygiene facilities, wheelchair access, child-friendly waiting rooms, and inclusive health education. This study uniquely captures the perspectives of environmental health officers through participatory FGDs, offering context-specific insights into the challenges and opportunities of integrating GEDSI principles within Indonesian healthcare facilities. The study demonstrates that FGD is an effective method to elicit grounded insights and collaborative strategies. Integrating GEDSI principles into environmental health planning requires not only technical adjustments but also inclusive dialogue with stakeholders to ensure equitable, dignified, and sustainable healthcare services for all.

Keywords: *Gender; disability inclusion; environmental health; health equity*

Published by:
Tadulako University
Address:
Jl.Soekarno Hatta KM 9. Kota Palu, Sulawesi Tengah, Indonesia.
Phone: +6282197505707
Email: preventifjournal.fkm@gmail.com

Article history :
Received : 21 10 2025
Accepted : 19 12 2025

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INTRODUCTION

Gender is social and cultural construct that shapes how societies percive and treat differently both men and women. In Indonesia, patriarchal norms continue to influence access to environmental health services within health care facilities (1). Healthcare facilities are expected to provide safe, health and inclusive environments for all users, including vulnerable groups such as women, persons with disabilities, the elderly, and socially vurnerable communities. However, in practice, these aspects are neglected, affecting service quality, user confort and infection prevention (2)

Implementing gender-sensitive environmental health can help reduce maternal mortality, decreased incidence of reproductive tract infections, and prevention of violence against women and girls (1). However, the implementation of environmental health strategies in healthcare facilities still emphasize technical components such as sanitation and waste management, without without fully integrating Gender Equality, Disability, and Social Inclusion (GEDSI) dimensions (1).

The water, Sanitation, and Hygiene Facility Improvement Tool (WASH FIT) provides a systematic framework for enhanching environmental health management through infrastructure assessment, hygiene promotion, and staff capacity building to improve patient safety (2). Yet, while previous studies have explored its technical effectiveness, little attention has been given to participatory planning and strategic integration of GEDSI principles within in WASH FIT implementation. Understanding how WASH FIT can serve as an entry point for inclusive environmental health management remains a critical gap.

Studies show that healthcare facility designs often remain unfriendly to persons with disabilities and other vulnerable groups, such as the lack of access ramps, toilets without handrails, or inadequate ventilation for pregnant women. These conditions create

significant physical and psychosocial barriers for service users and exacerbate inequalities in service access and quality (3,4). Research by PKMK FK-KMK UGM in 2023–2024 ALSO highlights similar issues, including unfriendly infrastructure, communication barriers, and transportation difficulties (6). In Indonesia, the provision of GEDSI-friendly health facilities is not yet regulated by law. As a result, only a few facilities serve as model centers. Currently, there are training programs for environmental health management in health facilities, but only three cohorts have been conducted nationwide, and there are no training programs yet for end users (5).

WHO and UNICEF emphasize the importance of mainstreaming GEDSI in health facilities, including involving vulnerable groups in planning, policymaking, and quality monitoring processes (1). Based on this background, this study aims to analyze the results of group discussions among participants of a training program who developed GEDSI-Friendly Environmental Health Strategies in Health Facilities using Focus Group Discussion (FGD) techniques. Through the direct involvement of participants, this study is expected to explore insights, needs, and practical ideas based on field experiences and contribute to environmental health policies that are fair, contextual, and inclusive.

METHODS

This study employed a qualitative design using the Focus Group Discussion (FGD) technique to explore participants' views, experiences, and opinions on strategies for developing Gender Equality, Disability, and Social Inclusion (GEDSI)-Friendly Environmental Health (Kesling) in healthcare facilities. Participants were selected through purposive sampling based on their official representation from Provincial Health Offices, Poltekkes, and Bapelkes, each receiving an official assignment letter to attend the Training of Trainers (ToT) on Environmental Health Management in Health Facilities. The activity

was part of an official training program, not an independent research project; therefore, formal ethical clearance was not required. However, participants were informed that their discussion outputs and written assignments could be used for academic purposes, with confidentiality and anonymity ensured. During the training, participants were grouped heterogeneously based on institutional and professional diversity—such as environmental health officers, hospital staff, health department personnel, lecturers, and widyaiswara—and engaged in interactive lectures and collaborative tasks focused on GEDSI-based environmental health management.

FGDs were documented through discussion notes, observation sheets, and group outputs, continuing until data saturation was reached, indicating no new ideas emerged. These FGD results served as the primary data source for this study. Data were analyzed using thematic analysis through several stages: transcription, initial coding, categorization of themes, and synthesis of emerging patterns. Through this process, the study identified recurring ideas, strategic insights, and practical recommendations for integrating GEDSI principles into environmental health management within healthcare facilities.

RESULTS

In the effort to build more inclusive and equitable healthcare facilities (fasyankes), the approach based on Gender, Disability, and Social Inclusion (GEDSI) has become increasingly relevant and urgent to implement, particularly within the context of Environmental Health (Kesling) programs. Healthcare facilities are not only expected to provide technically safe and hygienic services, but also to address the specific needs of vulnerable groups such as women, the elderly, persons with disabilities, pregnant women, and children. Therefore, the implementation of GEDSI-friendly Kesling strategies requires active involvement from

various stakeholders, including health workers, communities, and the target groups themselves.

As part of the training and participatory assessment, three groups of participants developed Kesling strategies with a focus on different target groups: gender, disability, and social inclusion. Each group presented a context-specific strategy that reflects real needs in the field, covering aspects such as infrastructure, policy, and community participation. The following section presents the summaries from these three groups as a concrete contribution to the development of more practical and equitable GEDSI-friendly Kesling strategies.

Table 1. Matrix of Discussion Results

No.	Primary Data	Code	Thema	Conclusion
1	Providing gender-neutral toilets and separate toilets for men and women	Inclusive toilets	Facility Accessibility	Health facilities must provide safe, inclusive, and private toilets for all genders.
2	Providing sanitary pads, soap, clean water, covered trash bins, and sinks in toilets	Menstrual Hygiene Management (MHM) Facilities	Specific Needs of Women	Basic facilities must be prepared to support women's reproductive health in health facilities.
3	Providing ramps, wheelchairs, and handrails for pregnant women or persons with disabilities	Disability- and pregnancy-friendly infrastructure	Accessibility for Disabilities and Specific Groups	Health facilities must ensure safe and comfortable physical access for pregnant women and persons with disabilities.

4	Involving women in decision-making and monitoring	Women's participation	Gender Inclusion and Equity	Involving women in planning and evaluating services enhances program sustainability and relevance.
5	Educating parents of toddlers on hygiene, diaper waste management, and handwashing	Family health education	Education and Empowerment	Family-based education is crucial to ensure a healthy environment for toddlers.
6	Training staff on empathy toward pregnant women and persons with disabilities	Staff capacity building	Inclusive Service Culture	Health workers' social competence must be improved to ensure more empathetic and non-discriminatory care.
7	Providing child-friendly waiting areas, small toilets for toddlers, and educational play tools	Child-friendly facilities	Social Inclusion for Children	Health facilities should be designed to be comfortable and safe for children and their families.

GEDSI-Friendly Environmental Health Strategy in Health Facilities

The group proposed a gender-sensitive environmental health (Kesling) program that prioritizes the planning of facilities and policies responsive to women's needs. Participants emphasized that environmental health programs must integrate women's perspectives at every stage of planning and management. One female participant stated:

"We need to involve women from the start—especially in planning and budgeting for toilets—so the facilities actually meet their needs."

During the planning stage, they emphasized the importance of involving women in decision-making processes, budgeting for environmental health facilities such as toilets, and providing specific amenities tailored to women's conditions, including menstruation, pregnancy, breastfeeding, and postpartum care (6). They also developed maintenance SOPs and appointed specific personnel responsible for implementation (1). Their proposed innovations included the provision of gender-neutral toilets and support facilities for patients with companions of a different gender—particularly relevant for the elderly and children.

In the operational aspect, they integrated women-friendly principles by ensuring the availability of Menstrual Hygiene Management (MHM) facilities, such as sanitary pads, soap, clean water, and covered trash bins in toilets, along with easy access to sanitary pads through reception staff (7). In addition, sitting toilets and handrails were prioritized for pregnant women and the elderly to ensure safer access (1). Monitoring was carried out through a participatory approach, where women actively took part in evaluating the SOPs. This strategy reflects a comprehensive understanding of the needs of vulnerable groups based on gender.

Furthermore, by incorporating gender-responsive sanitation and hygiene management—such as safe menstrual hygiene facilities, breastfeeding corners, and accessible toilets for pregnant women—the program not only enhances comfort and safety but also upholds the principles of human rights and health equity (8). This approach ensures that environmental health interventions are sustainable, inclusive, and sensitive to gender differences in both access and outcomes.

Environmental Health Strategy in Health Facilities that is Disability-Friendly

This group discussed a strategy for providing disability-friendly toilets as part of efforts to create inclusive and equitable healthcare facilities. The main focus of the discussion was to ensure that toilets are designed to meet the needs of users with various types of disabilities, including mobility limitations, visual impairments, and hearing impairments. Participants emphasized the importance of both physical aspects and accessibility working in harmony.

This group prioritized physical accessibility and safety for people with disabilities. A male participant with experience in community health centers shared:

"Toilets should be designed so everyone can use them without help—especially wheelchair users. The door must open outward, the handle must be low, and the floor must be even.

In terms of access, toilets should be located close to service areas, well-lit, and safe to use. Ideally, toilet doors should be wide, open outward, equipped with low door handles, and easy to reach. The path to the toilet should include tactile markers, handrails, and a gently sloped floor—no more than 2 cm in height difference—to facilitate wheelchair movement. Inside the toilet, there must be enough maneuvering space for wheelchair users or companions. Other essential features include sitting toilets with handrails, easily reachable water hoses for cleaning, and handwashing facilities positioned at a suitable height for wheelchair users. This design reflects GEDSI principles and represents a concrete step toward healthcare services that are friendly, safe, and equitable for all, especially persons with disabilities.

Environmental Health Strategy in Health Facilities that Supports Social Inclusion

The third group focused on social inclusion within health facilities. Participants identified gaps in child-friendly and family-oriented healthcare environments. One female environmental health officer noted:

"Children often feel scared in health centers. We need spaces where they can play or learn while waiting, it helps them feel safe.

They recognized that many healthcare services have yet to provide child-friendly examination spaces in terms of comfort, safety, and social accessibility. Their core strategy included the provision of child-specific waiting areas with educational toys, handwashing facilities that are easily accessible for children, and small, safe toilets for toddlers. In addition, they encouraged environmental health officers to understand the social conditions of families with young children, particularly those from poor or marginalized groups. As such, healthcare personnel need capacity-building training to foster more empathetic and non-discriminatory services.

Furthermore, this group highlighted the importance of environmental health education for parents of young children, including topics such as used diaper management, access to clean water, and household waste sorting. They also emphasized community involvement in monitoring the environment around health facilities to ensure it remains safe and healthy for toddlers—for instance, through neighborhood-level (RT/RW) cleanliness campaigns. These efforts extend beyond physical facilities to foster a participatory culture and equal access for all social groups.

A recent study by Rolia et al (9) Investigated the relationship between inclusive WASH (Water, Sanitation, and Hygine) facilities and outpatient satisfaction in health center in Lampung, Indonesia. The research amphasized that the availability of inclusive and accessible WASH facilities, such as gender sensitive toilet, ramps for persons with disabilities, and clean, well maintenated sanitation infrastructure, significantly increased patients comfort and statisfication level. The findings revealed that inclusive environmental health design contributes not only to improve hygiene standards but also patients perceive equity and dignity in accessing care, particularly among vulnerable groups such as women,

children, and individuals with disabilities. The study highlights that promoting inclusivity in WASH infrastructure is crucial component of environmental health strategies aimed at creating safer, more welcoming, and socially equitable health service enviroments.

A recent cross-sectional study by Pattabi et al (10) examined children's level of satisfaction and expectation regarding the physical environment of hospitals, emphasizing how environmental design influences their overall healthcare experience. The study found that child-friendly features, including colorful waiting area, play corners, and visual or sensory stimuli, significantly improved children's comfort, reduce anxiety, and enhanced their preception of care quality. Furthermore, these design elements were show to foster a sense of safety and trust between young patients and healthcare provider, rainforcing the importance of inclusive and empathetic environmental planning within pediatric health facilities. The authors conclude that creating child-centered hospital enviroments is essential for improving satisfaction and emotional well-being during medical visit.

DISCUSSION

The findings from all three groups reveal that the implementation of environmental health (Kesling) strategies in health facilities must go beyond technical standards to comprehensively fulfill the rights and specific needs of vulnerable populations. Group 1 emphasized the importance of gender- and elderly-friendly facilities, such as separate toilets, spaces for breastfeeding and menstruation, and involving women in planning and monitoring. Group 2 highlighted the need for inclusive healthcare facility design for persons with disabilities, from physical accessibility to inclusive communication. Meanwhile, Group 3 stressed a socially inclusive approach for young children and their families, paying special attention to the needs of marginalized communities through community-based education and empowerment.

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Based on the findings of the third focused group discussion, in accordance with the Health Equity Framework theory, where the outcome of a person's health and education is influenced by four important factors. First, relationships and networks. This section concerns how equitable health conditions are supported through a support system that encourages a person's various choices to decide on healthy conditions. Second, individual factors. Individual factors are addressed through efforts to promote or advocate for equitable health conditions through attitudes, skills, and behaviors that facilitate the health of vulnerable individuals and communities. Third, policy power systems, processes, and practices that promote equitable health conditions through efforts to provide fair access to resources and opportunities that facilitate healthy living conditions for vulnerable groups. Finally, there is the physiological pathway, where it is hoped that health equity can be improved when a person is physically, cognitively, and psychologically capable. Ultimately, this equitable health condition enables individuals and groups to make fair decisions about the resources and opportunities needed to achieve optimal physical, emotional, and social well-being in order to access safe and adequate water, sanitation, and hygiene services (11).

Picture 1. Health Equity Framework Theory

A study in Vanuatu showed that persons with disabilities, menstruating women, and individuals with incontinence face significant barriers in accessing safe and adequate WASH (Water, Sanitation, and Hygiene) services. These barriers include physical limitations, dependence on caregivers, social stigma, and a lack of appropriate infrastructure and hygiene products. As a result, these groups face higher health risks and lower quality of life. These findings underscore the importance of inclusive and GEDSI-sensitive WASH approaches. Using mixed methods, the study generated strong evidence to guide the design of programs and policies that respond to the needs of vulnerable populations. Policy implications include the provision of accessible facilities, education, availability of appropriate hygiene products, and cross-sectoral integration to ensure WASH services that are equitable and dignified for all (12).

In addition to linking the theory of health equity with how GEDSI is applied to vulnerable groups, it is also important to note that the theory of intersectionality is an important aspect that policymakers need to consider in relation to marginalized groups' access to water, sanitation, and hygiene. Intersectionality theory examines how the decision-making process of policymakers can develop, understand, and empower marginalized groups in improving the context of WASH management in everyday life (13).

In terms of inclusion, the implementation of WASH is also necessary in considering gender equality, disability, and social inclusion (GEDSI). Although all community members have the right to access better WASH facilities, some of them certainly require special attention, such as young women in relation to good menstrual hygiene management, people with disabilities, pregnant women, the elderly, and even children regarding the use of toilet facilities and adequate hand washing that is appropriate for their age (14).

To make WASH improvements in health facilities more effective, monitoring strategies must include indicators that are sensitive to gender and disability. Studies in India and Uganda show that gender-sensitive multitool assessments are highly effective in evaluating WASH services from both user and provider perspectives. This approach not only helps identify access gaps but also offers scalable solutions for equitable, inclusive, and sustainable WASH service improvements in healthcare settings (15).

These findings confirm that transforming health facilities into healthy and inclusive environments requires the systemic integration of GEDSI principles in physical infrastructure, service provision, and social relationships within the facilities. Thus, GEDSI-friendly healthcare facilities are not merely a normative ideal but can be realized through collaboratively designed, locally grounded strategies.

CONCLUSIONS AND RECOMMENDATIONS

This study highlights that integrating Gender Equality, Disability, and Social Inclusion (GEDSI) principles into environmental health (Kesling) strategies in healthcare facilities must extend beyond technical infrastructure and sanitation standards, emphasizing gender-responsive planning, disability-friendly environments, and inclusive services for marginalized groups. Findings from Focus Group Discussions (FGDs) involving stakeholders from diverse institutions revealed the urgent need for GEDSI-responsive services and underscored the importance of strengthening planning, implementation, and evaluation within environmental health management. Thematic analysis further identified the necessity of participatory planning, community-based health education, and empathy-driven service delivery as essential components of equitable healthcare systems. Practically, the study calls for the Ministry of Health and related agencies to develop clearer guidelines, enhance capacity-building initiatives, and establish monitoring tools to ensure

inclusive practices, alongside formulating national standards for GEDSI-friendly environmental health infrastructure. Future research is recommended to evaluate the effectiveness of GEDSI implementation, compare rural–urban readiness, and examine how inclusive infrastructure influences patient comfort, safety, and satisfaction to strengthen policy and practice at the national level.

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