

Water, Sanitation and Hygiene in Lower-Level Health Care Facilities of Dar es Salaam Region in Tanzania: Status towards Achieving the Sustainable Development Goals and Way Forward

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How to cite this paper: Mahamudu, M., Mohamed, H., Habtu, M., Rweyemamu, D., Mwakitalima, A., Seleman, A., Mgina, E., Massa, K., Saguti, G., Fouda, A.A.B. and Yoti, Z. (2024) Water, Sanitation and Hygiene in Lower-Level Health Care Facilities of Dar es Salaam Region in Tanzania: Status towards Achieving the Sustainable Development Goals and Way Forward. *Advances in Infectious Diseases*, 14, 279-295.
<https://doi.org/10.4236/aid.2024.141021>

Received: January 4, 2024

Accepted: March 26, 2024

Published: March 29, 2024

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Abstract

Background: Improving Water, Sanitation and Hygiene in health care settings is a critical prerequisite for achieving national health goals and Sustainable Development Goals (SDGs). The World Health Organization (WHO) has set a target for each United Nations member state to reach by 2030. Each member state is required to reach by 2022, 2025 and 2030 at least 60%, 80% and 100%, respectively of basic level of service of the five elements which are water, sanitation, hygiene, waste management and environmental cleaning. **Methods:** This study aimed to evaluate and document the current state of basic water, sanitation, and hygiene services in all lower-level health care facilities in the Dar es Salaam region of Tanzania as of July 2022. A cross-sectional study was conducted in 99 public dispensaries in the Dar es Salaam region's five councils: Ubungo, Kigamboni, Kinondoni and Tememe Municipalities, and Ilala City. The interviewee form and observational checklists were both digitalized using the Kobo tool software. The respondents were health care facility in-charges or nurse in-charges. Data were downloaded, validated, and imported to Stata version 15 for analysis. **Results:** The basic WASH level per JMP is far below the target in 2022. Each member state by 2022 is required to

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reach at least 60% of the basic level of service of each element. We found a low coverage of basic WASH in the 99 dispensaries included in this study. The basic WASH coverage was met in only 10 (10.1%) of the dispensaries, while the remaining 89 (89.9%) dispensaries fall on limited WASH services.

Conclusion: This study revealed lower coverage of basic WASH services in dispensaries. An urgent need is required to improve the status of WASH in all the dispensaries and facilitate the provision of quality health care services, patient safety and reduce health care associated infections.

Keywords

Dispensaries, Low Level Health Care Facilities, Service Levels, Basic WASH, Dar es Salaam

1. Introduction

Basic water supply, sanitation, and hygiene (WASH) services in health care facilities refer to the provision of basic services of water, sanitation, hygiene, health care waste management, and environmental cleaning. Service ladders have been developed for monitoring WASH in health care facilities [1]. These were developed to enable the advanced realization of Sustainable Development Goals (SDGs) criteria, allowing countries at various levels of development to track and compare progress [2]. There are three levels in the core service ladders: no service, limited service, and basic service.

Improving WASH in health care settings is a critical prerequisite for achieving national health goals and SDGs 3 and 6 [2]. The positive impacts of improved WASH in health care facilities include reduced health care acquired infections (HCAIs), antimicrobial resistance (AMR), increased health workers satisfaction and patient healthcare-seeking behavior, and promoting infection prevention and control (IPC) [2] [3] [4] [5]. At the 72nd World Health Assembly in May 2019, Ministers of Health from Member States of the World Health Organization (WHO) approved a resolution on WASH in health care facilities, committing to advancing WASH in health care facilities due to its importance [6].

The WHO and United Nations Children's Fund (UNICEF) comprehensive baseline report of 2015 compiled data from 54 low- and middle-income countries (LMICs) on water, 36 LMICs on sanitation and 35 LMICs on hygiene. The report established that about 40% of health care facilities lacked water supply within 500 meters; 19% lacked access to improved sanitation; and 35% lacked hand washing facilities [7]. Similarly, an assessment conducted involving 129,557 health care facilities from 78 LMICs, including Tanzania, found that 33% of the health care facilities lacked improved sanitation, 33% lacked piped water supply, 39% lacked hand hygiene facilities, and 39% lacked effective infectious waste disposal containers [8]. Because of the above, LMICs have a long way to go to meet the global targets which require countries to ensure basic WASH

services in at least 60% of their health care facilities by 2022, 80% by 2025, and 100% by 2030 [9] [10].

According to the 2019 Joint Monitoring Program (JMP) report, which drew data from the Tanzania Service Provision Assessment (TSPA), 65% of health care facilities in Tanzania had met the standards for basic water supply, 35% for basic hygiene, and 27% for health care waste management [11] [12]. The report revealed Tanzania had 5% of basic sanitation while there was no data for environmental cleaning. The data addressed itemized WASH elements but did not address basic WASH in Tanzania.

The Government of Tanzania, in collaboration with stakeholders, has been implementing various activities to address the challenges of poor access to WASH services in health care facilities. These collaborations have resulted in the development of WASH guidelines, Standard Operating Procedures (SOPs), and job aids. The collaboration also enhanced the rehabilitation of WASH infrastructure in more than 1000 health care facilities [13] [14] [15] [16]. However, more needs to be done to reach more health care facilities, especially with low-level facilities, including dispensaries.

Several assessments were conducted to gauge WASH services in health care facilities in Dar es Salaam, Tanzania, identifying and documenting significant gaps [12] [17]. However, these assessments were conducted in 2016, so the available data is obsolete. In addition, the basic WASH service level was not considered during the evaluation. As a result, the findings could not be relied upon to show WASH status as per SDG service levels for health care facilities in Tanzania. Therefore, this study aimed to evaluate and document the status of basic WASH services in all lower-level health care facilities of the Dar es Salaam region in Tanzania.

2. Materials and Methods

2.1. Study Design and Study Area

This study adopted a cross-sectional, quantitative approach that was conducted in Dar es Salaam region (**Figure 1**), whereby all public dispensaries from the five councils were targeted. The councils included four municipalities (Ubungo, Kigamboni, Kinondoni, and Temeke) and Dar es Salaam City council. Dar es Salaam was chosen due to its high population, and higher water supply and sanitation coverage. A list of dispensaries was obtained through the Ministry of Health Facility Registry portal [18]. Dispensaries which were not operating at the time of the study and dispensaries owned by the military, defense force and security authorities were excluded from this study. The interviewees were either health care facilities in charge or nurse in charge available at the time of the visit.

2.2. Variables

The basic WASH service followed UNICEF/WHO Joint Monitoring Program definitions. Therefore, a facility qualifying for basic WASH means it carries basic service qualification of all WASH elements as indicated in **Table 1**.



Figure 1. A map of Tanzania showing Dar es Salaam region and its Councils.

2.3. Recruitment and Orientation of Research Assistants

Twelve research assistants were selected based on previous training and experience in collecting data on WASH in health care facilities. Research assistants with environmental health science backgrounds residing in the Dar es Salaam region were granted special consideration. All research assistants were oriented for 2 days on using Kobo collect software and were familiarized with the research questions. The orientation included demonstrations, practical sessions, interviewing, and electronic data capturing.

2.4. Data Collection

Data were collected in July 2022. Before data collection, data collection tools were piloted in five dispensaries in Kibaha Town Council, Pwani Region, which enabled us to modify the tools. For instance, the tool was modified to observe one consultation room instead of two, as almost all the dispensaries in Kibaha had only one consultation room. Similarly, the service offered by the dispensaries and the time to be spent in one dispensary were modified. Data collection tools were configured in the Kobo collect software. The respondents were interviewed using a standardized tool, while an observational checklist was used to verify the availability of WASH infrastructure in the facilities. Some of the questions were customized from the JMP, including questions on basic criteria for water, sanitation, hygiene, health care waste and environmental cleaning [1].

2.5. Data Processing and Analysis

Data were downloaded from the Kobo collect application in Microsoft Excel

format, double-checked, and imported into STATA version 15 for analysis. WASH service levels for all health care facilities were analyzed using JMP service ladders into basic, limited, and no services [9]. The WASH score values obtained from the study were compared to the global indicators stipulated in the service ladders for water, sanitation, hygiene, waste management and environmental cleaning for health care facilities. The basic WASH calculation was done by looking at the requirements for each element. If the dispensary met these requirements for all elements, it would qualify for basic WASH. If one element was not available, there would be limited service; if all elements were not available, there would be no service. The criteria are indicated in **Table 1**.

2.6. Ethical Issues

The approval for conducting this research was obtained from the Muhimbili University of Health and Allied Sciences (MUHAS) Institutional Review Board through registration number MUHAS-REC-07.2022-1260. Permission to conduct field visit was also requested from the Regional Administrative Secretary from Dar es Salaam region via the letter with reference number EA.260/307/01A/61.

3. Results

3.1. Socio-Demographics

The characteristics of the respondents are shown in **Table 2**. A total of 99 participants were enrolled in the study, where dispensaries were primary sites for data collection. Out of 99 study participants, the majority (64.6%) were females while (35.4%) were males. Over a half (58.6%) of the respondents were Health Care Facilities in Charges. Most of the respondents (58.6%) were in the age of 35 - 50 years. Lastly, 44 (44.4%) had 2 - 5 years of working experience. The response rate [19], as calculated from American Association for Public Opinion Research guidelines was 100%.

3.2. Basic WASH Service Level Coverage

As shown in **Table 1**, considering all five domains of WASH in healthcare facilities: water, sanitation, hygiene, healthcare waste management, and environmental cleaning, basic WASH services were found to be accessible in merely ten dispensaries (10%), with the majority, 89 dispensaries (90%), classified as having limited service (**Table 3**).

3.3. Water Supply

During interviews, majority of respondents (93.94%) reported that the main water sources used were improved water sources-water sources that are protected from outside contamination, making it safer and more reliable for human consumption. These were commonly piped water supply (49.49%) inside household premises as opposed to those getting piped water supply from outside premises (12.12%). Thirty-eight (38%) of dispensaries reported to use water from pro-

tected boreholes or tube-wells. The primary water sources reported by respondents is indicated in **Table 4**.

Table 1. Definition of WASH elements service as per JMP ladder.

Service level	Definition
Water	
Basic service	Access to an improved water source (tap water, protected dug wells or springs, bore holes) on premises with water available at the healthcare facility at the time of the survey
Limited service	Access to improved water source on premises without water available at the healthcare facility at the time of the survey or water source is off premises but within 500 meters
No service	Access to improved water source that is more than 500 meters, water is taken from unimproved source such as unprotected dug wells, or the healthcare facility has no water source.
Sanitation	
Basic service	Access to improved latrines or toilets (VIP latrines, Pour-flush toilets, composting toilets) which are usable, separated for patients and staffs, separated for women with menstrual hygiene facilities, and meet the needs of people with limited mobility. The term usable here refers toilets or latrines that are accessible to patients and staffs (doors are unlocked or keys are available at all times), functional (the toilet is not broken, the toilet hole is not blocked, and water is available for flush/pour-flush toilets), and private (there are closable doors that lock from the inside and no large gaps in the structure)
Limited service	Access to improved latrines or toilets which do not meet all the criteria for basic service
No service	Access to unimproved (Pit latrines without slab) or no toilets
Hygiene	
Basic	Availability of alcohol hand-rub or a basin with water and soap at points of care (location in healthcare facility where care or treatment is delivered such as consultation/examination rooms) and handwashing facilities with water and soap at toilets
Limited	Availability of hand hygiene materials at either points of care or the toilets but not both
No service	No hand hygiene stations or with no cleansing materials
Healthcare waste management	
Basic service	Availability of facilities where healthcare waste is safely segregated into at least three bins (sharps, infectious, and non-infectious) in the consultation area, and that safely treat and dispose of sharps and infectious waste
Limited service	Availability of facilities that segregate healthcare waste but do not treat and dispose of it safely, or that do not effectively segregate waste
No service	Waste is not segregated or safely treated and disposed of at the healthcare facility.
Environmental cleaning	
Basic service	Health care facilities with basic protocols for cleaning and where all staff with cleaning responsibilities have been trained
Limited service	Facilities with cleaning protocols and/or where at least some staff with cleaning responsibilities have received training
No service	No cleaning protocols available and no staff have received training at the healthcare facility

Table 2. Socio-demographic characteristics of the respondents.

Characteristics	Frequency (N = 99)	Percentage (%)
Sex		
Male	35	35.35
Female	64	64.65
Total	99	100
Age group		
≤35	28	28.28
35 - 50	58	58.59
>50	13	13.13
Total	99	100
Role at the HCF		
HCF in Charge	58	58.59
Nursing Officer in Charge (Matron/Patron)	35	35.35
HCF Management team Member	6	6.06
Total	99	100
Working experience		
≤2 years	18	18.18
2 - 5 years	44	44.44
>5 years	37	37.37
Total	99	100

Table 3. Coverage of basic WASH elements in healthcare facilities.

WASH elements	Service ladder Percentage		
	Basic service	Limited service	No Service
Water Supply	91 (91.9%)	8 (8.1%)	0%
Sanitation	22 (22.2%)	77 (77.8%)	1 (1%)
Hygiene	50 (50.51%)	49 (49.5%)	0%
Health Care Waste	11 (11.1%)	88 (88.9%)	0%
Environmental Cleaning	28 (28.3%)	71 (71.7%)	0%
Basic WASH	10 (10.1%)	89 (89.9%)	0%

3.4. Sanitation

The basic sanitation services indicator requires that health care facilities have improved and usable sanitation facilities. In this study, over three-quarter (77.7%) of the healthcare facilities had access to improved toilets or latrines. As shown in **Table 5**, only 31.31% of the dispensaries met the criteria for basic sanitation

Table 4. Primary water sources used by dispensaries in Dar es Salaam region

Main/Commonly used water source	Number of Dispensaries	Percent
Piped water supply (inside the building)	49	49.49
Piped water supply (outside the building)	12	12.12
Tube well/Borehole	38	38.38
Total	99	100%
Improved water source with running water		
Yes	93	93.94%
No	6	6.06%
Total	99	100%

Table 5. Sanitation service coverage among dispensaries in Dar es Salaam region.

SANITATION	Frequency (N)	Percentage (%)
Basic service	31	31.3
Limited service	66	66.7
No service	2	2.0
Total	99	100

services since had improved toilets separated for staff, patient, and disabled. Additionally, more than half (66%) of the dispensaries fell under limited sanitation service. The remaining 2% of the dispensaries had no toilets facilities at the time of the visit.

Distribution of the toilet type available in each of the visited dispensary is shown in **Table 6**. Pour flush toilets were the most commonly used type of toilets in dispensaries as they accounted for 84.88% and 77.32% for staff and patients respectively.

3.5. Hand Hygiene

Over a half (66.67%) of the facilities met criteria for basic hand hygiene service since they had functional handwashing facilities (with necessary supplies e.g., water and soap) at all points of care and toilets, while 32 (32.32%) dispensaries had functional hand washing facilities to some point of care locations or toilet. Only 1 (1.01%) dispensary lacked provision of handwashing facility in any of point of care and toilet location at the time of the visit. These results are indicated in **Figure 2**.

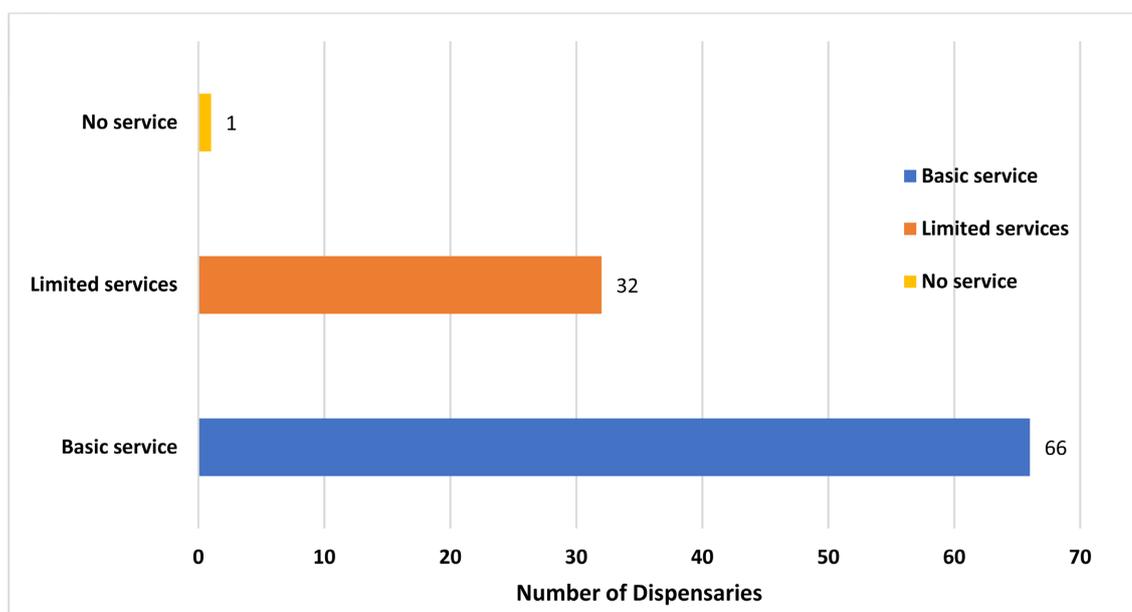
As shown in **Figure 3**, the commonly used handwashing facility was sink connected with tap (58.59% of dispensaries). Bucket with tap (or tank with capacity ranging from 100 to 500 liters) accounted for 40.4%.

3.6. Healthcare Waste Management

According to the interviews, the primary methods for healthcare waste disposal

Table 6. Distribution of type of toilets or latrine for staffs and patients.

Types of Toilet facility	Reported		Observed	
	Frequency (N)	Percentage (%)	Frequency (N)	Percentage (%)
For staff				
Pour Flush/Water Closet	73	84.88	73	84.88
VIP	1	1.16	1	1.16
Pit latrine	12	13.95	12	13.95
No Latrine	13	13.13	13	13.13
Total	99	100	99	100
For Patient				
Pour Flush/Water Closet	75	77.32	77	77.78
VIP	1	1.03	2	2.02
Pit latrine	21	21.65	18	18.18
No Latrine	2	2.02	2	2.02
Total	99	100	99	100

**Figure 2.** Coverage of basic hand hygiene services among dispensaries in Dar es Salaam

were on-site incineration at 40.4%; and burning in a pit at 25.25%. However, during observation, a notable difference was observed. Only 3.03% had access to an incinerator, while alternative methods included the use of a burning chamber at 58 (58.58%) and burning in a pit at 30 (30.3%), as shown in **Table 7**.

3.7. Environmental Cleaning

In this assessment, only 28.3% of the healthcare facilities met the criteria of basic

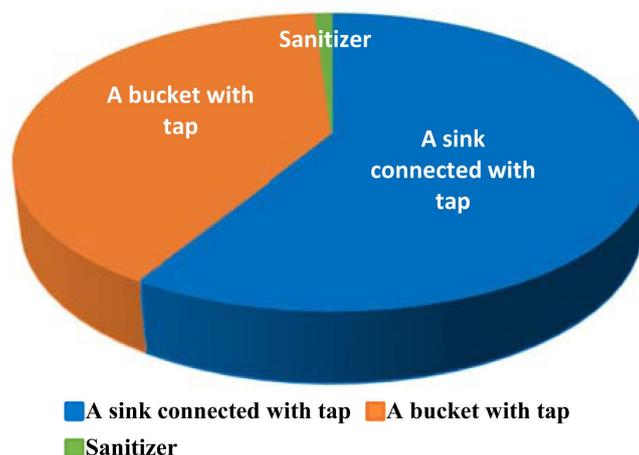


Figure 3. Type of Handwashing facilities (HWFs) commonly used by dispensaries in Dar es Salaam.

Table 7. Healthcare waste disposal options employed by dispensaries in Dar es Salaam.

Methods of infectious waste disposal	Reported		Observed	
	N (Number of Dispensaries)	Percentage (%)	N (Number of Dispensaries)	Percent
Contracted out for off-site disposal (waste collection)	16	16.16	8	8.08
Burning in a pit	25	25.25	30	30.3
Incineration of waste within facility campus	40	40.4	3	3.03
Burning chamber	18	18.18	58	58.58
Total	99	100	99	100

environmental cleaning service. The vast majority (93.94%) of dispensaries employed designated or contracted staff for facility cleaning, with staffing numbers ranging from 1 to 8 individuals. Around 6.06% of dispensaries lacked dedicated cleaning personnel, with healthcare workers shouldering these duties instead. Although a substantial portion (70.97%) of dispensaries ensured that their cleaning personnel received training on WASH-related aspects in healthcare facilities (HCF), there were still dispensaries where some or all cleaning personnel did not receive this training. Specifically, 11 (11.83%) dispensaries had some of untrained cleaning personnel, while in 16 (17.20%) dispensaries, none of the cleaning staff received the training. This information is summarized in **Table 8**, which details the training status of cleaning personnel.

3.8. Factors Influencing Basic WASH Services

Institution factor associated with basic WASH As indicated in **Table 9**, the study showed insignificant association between the institutional factors with the provision of basic WASH with P-Value of >0.05. It has been noted that dispensaries

Table 8. Training status of cleaning personnel.

Training status	Frequency (N)	Percentage (%)
None of cleaning personnel trained	16	17
Some of cleaning personnel trained	11	12
All of cleaning personnel trained	66	71
Total	93	100

Table 9. Institution factor associated with basic WASH.

Institution factor	Total	Basic WASH		P-Value
		Yes	No	
Facility has responsible personnel for WASH services				
Yes	41	5 (12.2)	36 (87.8)	0.366
No	58	4 (6.9)	54 (93.1)	
Total	99	9 (9.1)	90 (90.9)	
Facility has Guidelines on WASH?				
Yes	42	6 (14.3)	36 (85.7)	0.123
No	57	3 (5.3)	54 (94.7)	
Total	99	9 (9.1)	90 (90.9)	
Facility has Health Management Team?				
Yes	98	9 (9.2)	89 (90.8)	0.751
No	1	0 (0.0)	1 (100)	
Total	99	9 (9.1)	90 (90.9)	

with designated personnel for WASH had 5% basic WASH compared to 58 (4%) dispensaries. This was also noted in 42 dispensaries with WASH related guideline which had only 14.3% of basic WASH as well as facilities with health facility management team which stood at 9.2%.

3.9. WASH in Health Care Facility Financing

The budget allocation for each element in the financial year 2021/22 was acquired as detailed in **Table 10**, revealing that the allocation was below 500,000 TZS. This was notably higher across all elements. Funding sources for WASH activities included Own source 78 (79.59%), Health Basket Fund 81 (82.65%), NHIF/ICHIF 78 (79.59%), Grants 7 (7.14%), and user fees 19 (19.19%). However, the budget for the financial year 2022/23 was unavailable as it had not yet received approval from Local Government authorities.

The financial factors were assessed to determine whether they are associated with provision of basic WASH services. The findings presented in **Table 11** indicate that there is little correlation between the provision of basic WASH and

Table 10. Budget allocation per each WASH element in 2021/22.

SN	Activities	Amount of allocated funds		
		<500,000	500,000 - 1,000,000	>1,000,000
1.	Water	77	7	15
2.	Sanitation	76	6	17
3.	Hygiene	80	4	15
3.	HCWM	82	3	14
4.	Environmental Cleaning	67	8	24

Table 11. Financial factor associated with basic WASH.

Financial Factor	Total	Basic WASH		P-value
		Yes	No	
WASH activities integrated into the annual plans and budget				
Yes	45	3 (6.7)	42 (93.3)	
No	54	6 (11.1)	48 (88.9)	0.444
Total	99	9 (9.1)	90 (90.9)	
Was there any fund disbursed in 2021/22 financial year?				
Yes	73	7 (9.6)	66 (90.4)	
No	26	2 (7.7)	24 (92.3)	0.773
Total	99	9 (9.1)	90 (90.9)	

financial factors. Of the 99 dispensaries included in the study, the majority (73) received disbursements in the financial year 2021/22, but only 9.6% of them had basic WASH services. Conversely, among the dispensaries (45) that integrated WASH-related activities into their health plans, only 6.7% had basic WASH services.

Technical factors associated with WASH

The need for maintenance of WASH infrastructure was reported in 77 dispensaries, representing 77.78% of the total. Specifically, toilet infrastructure (62 dispensaries, 80.52%), hand washing facilities (55 dispensaries, 71.43%), water appliances (52 dispensaries, 67.53%), and HCWM (36 dispensaries, 46.75%) infrastructure were identified as requiring maintenance.

In terms of operation and maintenance plans for WASH, the majority of dispensaries (78, or 78.79%) had a general plan in place to address maintenance for all infrastructure. Only a small number (3, or 3.03%) had specific plans for WASH infrastructure, while 18 (18.18%) had no plan at all.

Regarding budgeting for maintenance, more than half of the dispensaries (66) had no budget allocated for WASH infrastructure maintenance. Only 46 dispensaries (46.46%) were able to carry out repairs during the financial year 2021/22. The study's findings suggest that there is an insignificant association

between technical factors and basic WASH infrastructure.

4. Discussion

This research unveils the results of an assessment conducted on the status of WASH (Water, Sanitation, and Hygiene) services in lower-level health care facilities across Dar es Salaam region. The findings reveal a minimal provision of basic WASH facilities in the 99 dispensaries surveyed. Basic WASH requirements were adequately fulfilled in merely 10 (10.1%) of the dispensaries, leaving the majority, 89 (89.9%) dispensaries, with limited access to WASH services. Similar observation has been revealed in the study conducted in Uganda in which access to basic WASH across all elements was 12.2% [20]. However, the reported results were higher than those obtained from a cross-sectional study of WASH services in 1318 health care facilities that was conducted in Ethiopia, Kenya, Mozambique, Rwanda, Uganda, and Zambia in which none of the assessed healthcare facilities had basic WASH services [19].

Safe and adequate supply of water is vital for infection prevention and control, and patient care in healthcare facilities. It is also essential for handwashing, sterilizing equipment, and maintaining hygienic conditions in patient areas. In this study, the proportion of availability for basic water services, with the primary water source being an improved source situated on-site and accessible, in dispensaries within the Dar es Salaam region was higher at 97.98%. In addition, water was available from the main source at 93 (93.4%) of the healthcare facilities at the time of the assessment. Conversely, according to the most recent JMP estimates for WASH in health care facilities, in 2019, it was revealed that 76% of health care facilities had a basic water service, which meant that water was available from an improved source on the premises [11]. The results from this study was much better compared to those reported in the studies conducted in Ethiopia, where 84% [20] [21], 86% [22], 88.6% [23], 70.4% [24] of the healthcare facilities had basic water services.

In this study, 77.7% of healthcare facilities had access to improved toilets. However, only 31.31% of the assessed healthcare facilities met the criteria for basic sanitation service. This is because there were no separate latrines for people with disability, separate latrines for staffs and patients in majority of the dispensaries. The proportion from this study is much higher compared to the other studies conducted in Ethiopia in which none of the healthcare facility had access to basic sanitation service (0%) [22] [23]. Additionally, in this assessment, 10.42% of respondents reported that the condition of the toilets separated for staff was poor, while 8.33% reported the same for toilets separated for patients.

Also, in this study, 66.67% of the assessed healthcare facilities had access to basic hand hygiene services since there was availability of functional handwashing facilities with water and soap at both points of care and toilet locations. This is consistent with the findings obtained from the study conducted in Ethiopia in which about 63.6% of healthcare facilities had functional handwashing facilities

at all points of care and toilets. Conversely, the proportion of healthcare facilities that met the criteria for basic hand hygiene was very low at 8.1% [24], 21.4% [22] in studies conducted in Ethiopia. The inadequate provision of basic hand hygiene services lower level of healthcare services may be attributed to insufficient financial resources to support the procurement and upkeep of hand hygiene supplies and facilities. Additionally, there may be a scarcity of locally developed hand hygiene products and technology within healthcare facilities.

The assessment also revealed a low coverage of basic healthcare waste management service since only 3 (3.03%) dispensaries had incinerators for disposal of the generated healthcare waste. The low coverage of basic health care waste results from the availability of unrecommended disposal facilities. Environmental cleaning is essential as it is a standard precaution to be applied in health care facilities settings [24]. In this study, only 28.3% of the healthcare facilities met the criteria for basic environmental cleaning, such as having protocols for cleaning in place, cleaning schedules and availability of trained cleaning personnel. This proportion is much higher than 2.3% [22]. Furthermore, in this assessment revealed that, 66 (70.97%) of cleaning personnel received training on WASH-related aspects in healthcare facilities. Again, this is much higher than the rate reported in a study conducted in Ethiopia which was around 25% [24].

An urgent intervention for improving the status of WASH in all the dispensaries is required to facilitate the provision of quality health care services and ensure effective IPC measures. We recommend regular monitoring and evaluation of the basic provision of WASH in health care facilities. Moreover, investment in WASH infrastructure is required) in all the dispensaries which lack such services.

Strength and Limitations of the Study

The limitation of this study is that it involved calculating WASH elements to obtain basic WASH status. The health care waste management element involved the availability of labelled or color-coded bins and on-site or offsite waste disposal facilities. This study relied on offsite treatment reported by respondents; thus, verification was not performed; this may affect the actual calculation of basic health care waste management. In addition, this study employed questionnaires and observation methods to gather information on basic WASH coverage in healthcare facilities. Questionnaires allowed for standardized data collection, offering quantitative insights on infrastructure and practices while observation provided qualitative understanding of real-time implementation. Combining both methods enhanced reliability and validity, ensuring a comprehensive assessment of WASH coverage in healthcare facilities. On the other hand, this study assessed the availability of basic healthcare WASH services using the JMP service ladder as a framework, but it did not cover all aspects of advanced WASH service levels.

Authors' Contributions

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Acknowledgements

The authors gratefully acknowledge the overall support provided by the Ministry of Health, the Muhimbili University of Health and Allied Sciences, and the National Institute for Medical Research, including in the granting of permission to publish this manuscript. The authors would also like to thank the World Health Organization for the technical and financial support provided during the process of publication of this manuscript.

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Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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