Module 3: WATER SUPPLY IN HEALTHCARE FACILITIES

Ministry of Health Liberia
Division of Environmental & Occupational Health

WASH & EH Package – Early recovery & Resilience Building from EVD outbreak

Water supply

Objectives

- To outline the minimum requirements for Water Supply in Healthcare Facilities
- To discuss water needs and rates in HCF setting

Learning

By the end of the session, participants should be able to;

- Describe minimum Water quantities required in HCFs
- Understand water quality requirements in HCF
- Describe water storage requirements in HCF

A. Water Supply

- ***Water Supply:*** *Water for drinking, personal hygiene including hand washing, bathing and cleaning personal utensils, cooking, laundry, cleaning and medical activities is safely treated, reliable and sufficient.*
- *Ensure on-site water collection points that are functional with water safety plans.*

Main issues

- Water Quantity – Amount of water available for use in a HCF per day
- Water Quality – Physical, chemical and biological qualities of water acceptable for drinking
- Water Access – Proximity of water to users (health workers, patients and visitors) in a HCF

Minimum Water Quantities Required in the Healthcare Facilities

Different Stations in Healthcare Facility	Minimum Water Requirement
Out patients	5 litres/consultation
In patients	40–60 litres/patient/day
Operating theatre / maternity	100 litres/intervention
Dry or supplementary feeding centre	0.5–5 litres/consultation
Wet supplementary feeding centre	15 litres/consultation
Inpatient therapeutic feeding centre	30 litres/patient/day
Cholera treatment centre	60 litres/patient/day
Severe acute respiratory diseases isolation centre	100 litres/patient/day
Viral haemorrahagic fever isolation centre	300–400 litres/patient/day

Source: WHO. (2008). Essential environmental health standards in healthcare pg 29.

Water Demand Estimates for Different Levels of Healthcare Facilities

Levels of Health Facility	Average Water Demand
Level 1 (Clinics)	710 gallons per day (2688 liters/day)
Level 2 (Health Centers)	1600 gallons/day (6057 liters/day)
Level 3 (Hospitals)	6200 gallons/day (23470 liters/day)

Water Sources

- Mains Supplies- water supply from a local network with a water treatment facility

- Onsite Water Source- mainly borehole
  - Underground water sources equipped with abstraction equipment to bring water to points of use.

Water Quality

Water Quality

- Water should be free of faecal contamination (0 fecal coliform counts /100ml),
- turbidity level should be < 5 nephelolometric turbidity units (NTU),
- chlorine residue should be 0.5 – 0.7 mg/l can be measured using a comparator /tester

Water Access

Water Access

- Onsite water supply is recommended
- water should be available in all outpatient and inpatient treatment locations.
- A reliable point for drinking water should be made available to staff, carers and patients at all

Water Treatment.

Water Treatment Main Types include;

- Physical removal of pathogens (e.g. filtration, adsorption, or sedimentation);
- Chemically treating water to kill or deactivate pathogens, most commonly with chlorine;
- Disinfection by heat (e.g. boiling or pasteurization) and ultraviolet (UV) radiation, either using the sun (solar disinfection) or an artificial UV lamp; and
- Combination of these approaches (e.g. filtration or flocculation combined with disinfection).

Water Sources

Borehole with hand pump

Water Treatment

Chlorine dosing

Water Storage

- In HCF water reservoirs should be used to store bulk water
- Ensure cleanliness and tight lid
- There should be sufficient storage at least 2days/48hrs back-up.

- Discussions

References

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Thank You