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WHO Guidelines on Sanitation and Health

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WHO released its first global guidelines on sanitation and health.

- The guidelines can help countries reduce the 829,000 annual diarrhoeal deaths due to unsafe water, sanitation, and hygiene. According to WHO, for every US \$1 invested in sanitation, it gives nearly a six-fold return as measured by lower health costs, increased productivity and fewer premature deaths.
- The new WHO Guidelines on Sanitation and Health summarize the evidence on the effectiveness of a range of sanitation interventions and provide a comprehensive framework for health-protecting sanitation, covering policy and governance measures, implementation of sanitation technologies, systems and behavioral interventions, risk-based management, and monitoring approaches.
- The main audience for the guidelines is national and local authorities responsible for the safety of sanitation systems and services, including policy makers, planners, implementers and those responsible for the development, implementation, and monitoring of standards and regulations.

Sanitation and Safe Sanitation

- Sanitation is defined as access to and use of facilities and services for the safe disposal of human urine and feces.
- A safe sanitation system is a system designed and used to separate human excreta from human contact at all steps of the sanitation service chain from toilet capture and containment through emptying, transport, treatment (in-situ or offsite) and final disposal or end use.
- Safe sanitation systems must meet these requirements in a manner consistent with human rights, while also addressing co-disposal of greywater, associated hygiene practices and essential services required for the functioning of technologies.

The significance of Sanitation for Human Health

- Safe sanitation is essential for health, from preventing infection to improving and maintaining mental and social well-being.
- The lack of safe sanitation contributes to diarrhea, a major public health concern and a leading cause of disease and death among children under five years in low and middle-income countries.
- The poor sanitation also contributes to several neglected tropical diseases, as well as adverse outcomes such as undernutrition.
- Lack of access to suitable sanitation facilities is also a major cause of risks and anxiety, especially for women and girls. For all these reasons, sanitation that prevents disease and ensures privacy and dignity has been recognized as a basic human right.

WHO Guidelines

- **Recommendation 1: Ensure universal access and use of toilets that safely contain excreta**
 - Universal access to toilets that safely contain excreta and elimination of open defecation should be prioritized by governments, ensuring that progress is equitable and in line with the principles of the human right to water and sanitation.
 - Demand and supply of sanitation facilities and services should be addressed concurrently to ensure toilet adoption and enable sustained and community-wide use.
 - Sanitation interventions should ensure coverage of entire communities with safe toilets that.
 - Shared and public toilet facilities that safely contain excreta can be promoted for households as an incremental step when individual household facilities are not feasible.
 - Everyone in schools, healthcare facilities, workplaces, and public places should have access to a safe toilet that, as a minimum requirement, safely contains excreta.
- **Recommendation 2: Ensure universal access to safe systems along the entire sanitation service chain**
 - The selection of safe sanitation systems should be context specific and respond to local physical, social and institutional conditions.
 - Progressive improvements towards safe sanitation systems should be based on risk assessment and management approaches.
 - Sanitation workers should be protected from occupational exposure through adequate health and safety measures.

- **Recommendation 3: Sanitation should be addressed as part of locally delivered services and broader development programmes and policies**
 - Sanitation should be provided and managed as part of a package of locally-delivered services to increase efficiency and health impact.
 - Sanitation interventions should be coordinated with water and hygiene measures, as well as safe disposal of child feces and management of domestic animals and their excreta to maximize the health benefits of sanitation.
- **Recommendation 4: The health sector should fulfill core functions to ensure safe sanitation to protect public health**
 - Health authorities should contribute to the overall coordination of multiple sectors on the development of sanitation approaches and programmes, and sanitation investment.
 - Health authorities must contribute to the development of sanitation norms and standards.
 - Sanitation should be included in all health policies where sanitation is needed for primary prevention, to enable coordination and integration into health programmes.
 - Sanitation should be included within health surveillance systems to ensure targeting, to high disease burden settings, and to support outbreak prevention efforts.4.e) Sanitation promotion and monitoring should be included within health services to maximize and sustain health impact.
 - Health authorities should fulfill their responsibility to ensure access to safe sanitation in healthcare facilities for patients, staff, and carers, and to protect nearby communities from exposure to untreated wastewater and fecal sludge.

Principles for implementation of sanitation interventions

Safe sanitation systems

- Sanitation systems should address the following minimum requirements to ensure safety along each step of the sanitation service chain.

- **Toilet**
 - Toilet design, construction, management, and use should ensure that users are safely separated from excreta.
 - The toilet slab and pan or pedestal should be constructed using durable material that can be easily cleaned.
 - The toilet superstructure needs to prevent the intrusion of rainwater, stormwater runoff, animals and insects.
 - It should provide safety and privacy with lockable doors for shared or public toilets.
 - Toilet design should include the provision of culturally- and context-appropriate facilities for anal cleansing, handwashing, and menstrual hygiene management.
 - Toilets need to be well maintained and regularly cleaned.
- **Containment – storage/treatment**
 - Where groundwater is used as a drinking-water source, a risk assessment should ensure that there is sufficient vertical and horizontal distance between the base of a permeable container, soak pit or leach field and the local water table and/or drinking-water source (allowing at least 15 m horizontal distance and 1.5 m vertical distance between permeable containers and drinking-water sources is suggested as a rule of thumb).
 - When any tank or pit is fitted with an outlet, this should discharge to a soak pit, leach field or piped sewer. It should not discharge to an open drain, water body or open ground.
 - Where products from storage or treatment in an onsite containment technology are handled for end use or disposal, risk assessments should ensure workers and/or downstream consumers adopt safe operating procedures.
- **Conveyance**
- - Wherever possible motorized emptying and transport should be prioritized over manual emptying and transport.
 - All workers should be trained on the risks of handling wastewater and/or fecal sludge and on standard operating procedures (SOPs).
 - All workers should wear personal protective equipment (e.g. gloves, masks, hats, full overalls, and enclosed waterproof footwear), particularly where manual sewer cleaning or manual emptying is required.

- **Treatment**
 - Regardless of the source (i.e. wastewater from sewer-based technologies or fecal sludge from onsite sanitation) both the liquid and solid fractions require treatment before end use/disposal
 - The treatment facility should be designed and operated according to the specific end use/disposal objective and operated using a risk assessment and management approach to identify, manage and monitor risk throughout the system.
- **End-use/disposal**
 - Workers handling effluent or fecal sludge should be trained on the risks and on standard operating procedures and use the personal protective equipment.
 - A multi-barrier approach (i.e. the use of more than one control measure as a barrier against any pathogen hazard) should be used.

Sanitation behavior change

Behavioral determinants for open defecation

- Lack of facilities
- Poor/foul-smelling/ Dirty Facilities
- Convenience
- Lack of familiarity with toilets
- Limited awareness of health consequences

Behaviour Change Approaches

- **Information, education, and communication-based (IEC) messaging approaches**

IEC can include mass media, group or interpersonal communication and participatory activities.

- **Community-based approaches**

- Collective processes are used to develop a shared understanding of a local problem, reach a collective agreement on actions and to create new norms around a specific behavior.
- Community-Led Total Sanitation (CLTS) initiatives are the most widely known and are directed at ending open defecation.

- **Social and commercial-marketing approaches**

- Social marketing refers to the broad set of initiatives that use commercial-marketing principles to change health behaviors.
- Social marketing assumes that sufficient promotion and demand creation, when met with accessible goods and services that meet a population's needs at an affordable price, results in changes in behavior.

- **Approaches based on psychological and social theories**

These include categories such as schedule consequences (negative reinforcement, punishment etc.), goal setting (behavior contract, action planning, commitment) and social support.