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Research Article

The Distribution of Using Clean Water Facilities in Poasia District Kendari City

Besse Nurjannah, Renni Aprindah,Esther Kendek Rost Nur Afiat Wahyuni, Dian Pratiwi, Ramadhan Tosepu

Department of Magister Public Health, Postgraduate Halu Oleo University Indonesia

Abstract.

As an international health organization, World Health Organization (WHO) states that clean water is used by humans to meet their domestic needs, starting from consumption, drinking, and food preparation. This study aimed to describe the use of clean water facilities in Poasia District, Kendari City, in 2022. This study employed quantitative descriptive research, which only describes in general how the distribution of clean water facilities in the working are of Poasia Public Health Center, Poasia District, in 2022. This data was obtained from 5 villages in Poasia District, namely Anduonohu Village, Wundumbatu Village, Rahandouna Village, Anggoeya Village, and Matabubu Village. The population was 9074 household heads. The instruments used were laptops, handphones, books, and pens to record the required data. Based on the results of these secondary data, the majority population in Poasia District used more clean water facilities than well-water from January to October 2022. Moreover, the percentage of clean water for households in Poasia District was higher using well-water (7609) than local water supply utility (1465) of 9074 household heads. The provision of clean water for the community has a very important role in improving environmental or community health, including in terms of reducing the number of people with diseases, especially those related to water, and increasing the standard or level/quality of people's lives.

Keywords: clean water, public health center, Kendari, Sulawesi Tenggara

Corresponding Author:
Ramadhan Tosepu; email:
ramadhan.tosepu@uho.ac.id

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1. Introduction

Water is a very important chemical compound for life on this earth. This is because water is a basic need for living things to do various activities. Other compounds cannot replace the benefits of water for life. Water serves as a drinking needs, household needs, industrial needs, agriculture, power plant, sanitation, and transportation in rivers and seas. To date, the provision of clean water is still a serious problem. Fulfilling the need for drinking water is oriented towards quality as required for drinking water health, as well as quantity and continuity[1].

The community's need for clean water emphasizes that water monitoring must be carried out carefully and regularly. In addition, it is necessary to control and prevent

contamination of clean water sources in the community. Water contamination is generally caused by waste disposed of carelessly without processing. Water contamination by pollutant substances can carry diseases and cause waterborne diseases (infectious diseases spread through water) [2].

Water safety and quality is critical to human progress and well-being. One of the most effective instruments in improving health and reducing poverty is by providing access to clean water. WHO is leading global efforts within the international authority on public health and water quality to prevent transmission of waterborne diseases. Promoting health-based regulation to governments can be achieved by working with partners to promote effective risk management practices to water suppliers, communities and households [3]. Water Aid in 2016 stated that more than 40 percent of the population in 16 countries did not have access to water facilities, even wells. These marginalized communities have to collect water from ponds and rivers and spend most of their daily income on buying clean water[4]. Approximately 2 billion people drink water contaminated with feces, and 4.5 billion people use sanitation systems that do not adequately protect their families[5].

Sanitation is a health effort by protecting and maintaining the cleanliness of the community's environment. Such as preparing clean water for washing hands, providing trash cans to accommodate garbage so that it is not disposed of carelessly[6].

Found a vector in the house in the District of Kendari. There was a cockroach vector in the bathroom and kitchen of the house, a fly vector with a low density of 5 was found on the floor of the house and trash cans that did not have a cover in the kitchen, the mosquito vector was found in mosquito larvae in water reservoirs such as water reservoirs and bathtubs and vectors were found mice in the kitchen of the house by using a mousetrap to see the existence of the house mouse vector. This is due to the physical condition of the house which does not meet healthy home standards such as insufficient lighting, and the absence of a ceiling in the house making it easier for vectors to enter the house.[7].

The results of Household Drinking Water Quality (SKAMRT) by the Ministry of Health in 2020, 7 out of 10 households in Indonesia consumed drinking water contaminated with Escherichia coli (E-coli) bacteria. Bearing in mind that water is also the main constituent of the human body, the risk of a clean and drinkable water crisis should be a concern. However in Indonesia, according to the Ministry of National Development Planning, it describes that Indonesia's safe sanitation income is still very low. The good sanitation

rate in Indonesia is only approaching 7% in 2020. This achievement is lower than Thailand where the sanitation rate reaches 26% and India which reaches 46%.[8].

The percentage of households with a source of clean drinking water and access to proper drinking water in Kendari City was 92.54% and 92.02% in 2021[9]. One of the forms of Clean and Healthy Living Behavior is to use clean water daily. This is because water quality can affect health and daily life. Water used daily for drinking, cooking, bathing, and other must be clean to avoid diseases caused by poor water quality [10].

Environmental sanitation is a very important effort in reducing the number of diseases. In the epidemiological triangle, environmental factors are one of the elements that determine a disease' occurrence. One of the main environmental elements is the availability of clean drinking water. According to the Regulation of the Minister of Health of the Republic of Indonesia No:416/Menkes/PER/IX/1990, the physical drinking water quality requirements are odorless, with no dissolved substances, not cloudy, tasteless, and colorless. Chemically, it contains inorganic, organic, microbiological, and radioactivity chemicals within specified limits. Clean water is water used for daily needs with water quality that meets health standards and can be consumed after being cooked.[11].

According to WHO, every person in developed countries needs between 60-120 liters of water per day. Meanwhile, in developing countries, including Indonesia, every person needs 30-60 liters of water per day [12]. One of the main needs of humans is drinking water. Humans cannot live without water. Humans can live up to two months without eating, but humans can only survive for two to three days without drinking [13].

The proportion of water use per person per day in households (5 categories) according to Regency/City, Southeast Sulawesi Province, Basic Health Research 2018 is <5 liters/person/day, totaling 0.005, 5-19.9 liters/person/day, totaling 4.16, 20-49.9 liters/person/day, totaling 27.39, 50-99.9 liters/person/day, totaling 39.93, >100 liters/person/day, totaling 28.47[14].

Based on the description above, the researcher is interested in conducting a study entitled the distribution of using clean water facilities in Poasia District, Kendari City, in 2022.

2. Research Methods

This study employed quantitative descriptive research, which only described in general how the distribution of clean water facilities in the working area of Poasia Public Health Center, Poasia District, in 2022. This data was obtained from 5 villages in Poasia District, namely Anduonohu Village, Wundumbatu Village, Rahandouna Village, Anggoeya Village, and Matabubu Village. The population was 9,074 household heads. The instruments used were laptops, handphones, books, and pens to record the required data.

3. Results

Table 1: Characteristics by gender.

Village	Gender	
	Women	**Man**
Anduonohu	6.612	6.866
Wundumbatu	3.738	3.713
Rahandouna	1.614	1.714
Anggoeya	3.590	3.762
Matabubu	970	966
Total	**16.524**	**17.021**

Source: Secondary Data in 2022

Table 1 shows that of the 5 villages, the most dominant gender isman, namely 17,021 people, and the least gender iswoman, namely 16,524 people.

Table 2: Characteristics by population.

Village	Total population
Anduonohu	13.478
Wundumbatu	7.451
Rahandouna	3.328
Anggoeya	7.352
Matabubu	1.936

Source: Secondary Data in 2022

Table 2 shows that of the 5 villages, the most dominant gender is in Anduonohu Village, namely 13.478 people, and the least gender is in Matabubu Village, namely 1,936 people.

TABLE 3: The distribution of clean water facilities based on the total of household heads in the working area of Poasia Public Health Center, Poasia District, in 2022.

Village	Total of Household Heads	Local Water Supply Utility	Well
Anduonohu	3.433	106	3.327
Wundumbatu	1.848	225	1.623
Rahandouna	1.280	115	1.165
Anggoeya	2.002	717	1.285
Matabubu	511	302	209
Total	**9.074**	**1.465**	**7.609**

Source: Secondary Data in 2022

Table 3 shows that the Poasia District has 9,074 household heads spread over 5 villages, namely Anduonohu, Wundumbatu, Rahandouna, Anggoeya, and Matabubu. The percentage of each village is 3,433 in Anduonohu, 1,848 in Wundumbatu, 1,280 in Rahandouna, 2,002 in Anggoeya, and 511 in Matabubu. The residents use 2 clean water sources, namely 1,465 Local Water Supply Utilities, and 7,609 wells. The number of household heads who use Local Water Supply Utilities in Anduonohu Village is 106, while the number of household heads who use wells is 3,327. The number of household heads who use Local Water Supply Utilities in Wundumbatu Village is 225, while the number of household heads who use wells is 1,623. The number of household heads who use Local Water Supply Utilities inRahandouna Village is 115, while the number of household heads who use wells is 1,165. The number of household heads who use Local Water Supply Utilities in Anggoeya Village is 717, while the number of household heads who use wells is 1,285. The number of household heads who use Local Water Supply Utilities in Matabubu Village is 302, while the number of household heads who use wells is 209.

4. Discussion

Currently, the need for water is increasing in line with the increasing population growth. Clean water is one of the important needs in human life and a natural resource with a vital function[15]. Clean water consists of water that can be consumed (drinking water) and water that can be used for other purposes in household activities, starting from drinking, bathing, cooking, washing, and other purposes [16].

As much as 97% of the water on earth is salt water, and the remaining 3% is fresh water. More than two-thirds of the earth is in the form of glacial and polar ice. The

sources of fresh water that do not freeze can be found mainly underground in the form of groundwater; only a small part is above ground level and in the air. Freshwater sources are renewable resources [17].

In fact, the current supply of clean water is always reduced. The water demand can be said to exceed supply; the population continues to increase in some parts of the world and throughout the world. The increasing human population on this planet can potentially increase the demand for clean water. The concern for the global interest in retaining water for ecosystem services has emerged. This can be seen since the world has lost more than half of its wetlands and the value of its ecosystem services. Freshwater ecosystems with high biodiversity are decreasing; the rate of decline is faster than ecosystems in the sea or on land [17].

Procuring clean water for household purposes, drinking water, bathing, and other needs must meet the requirements set by the regulations in force. Water quality includes: 1) Physical quality, which includes turbidity, temperature, color, smell, and taste, 2) Chemical quality, which relates to the presence of ions, and other toxic compounds, and 3) Biological quality, which relates to the presence of pathogenic microorganisms (causing disease and pollution and producing toxins). Good clean water must comply with international regulations (WHO and APHA) or national or local regulations[2].

Most of the people in Poasia District already have a source of clean water facilities from the Local Water Supply Utility and wells. The physical condition of clean water quality also appears clear and odorless. A total of 1,465 household heads use Local Water Supply Utilities, and 7,609 household heads use wells.

The use of clean water sources greatly affects the incidence of disease. This is because water is a very important element in the public health aspect. Water can be a source and breeding ground for disease germs [18]. Thus, in order to prevent the occurrence of a disease in individuals and groups, it is hoped that all people in the Poasia District area will take water from clean water sources and maintain or protect these water sources from contamination by humans and animals. In addition, routine water checks are carried out by Environmental Health Officers from the Poasia Public Health Center every 1 month so that the water used is free of germs and bacteria causing disease.

Based on the results of these secondary data, the majority population in Poasia District used more clean water facilities than well water from January to October 2022. Moreover, the percentage of clean water for household heads in Poasia District was

higher using well water (7,609) than Local Water Supply Utility (1,465) of 9,074 household heads.

The provision of clean water for the community has a very important role in improving environmental or community health, including in terms of reducing the number of people with diseases, especially those related to water, and increasing the standard or level/quality of people's lives.

Based on the Decree of the Minister of Health of the Republic of Indonesia Number 1405/MENKES/SK/XI/2002 concerning Health Requirements for Office and Industrial Work Environments, Clean water is water used for daily needs, and its quality meets the health requirements of clean water in accordance with applicable laws and regulations and can be drunk when cooked [19].

In fulfilling the need for water, there will be sources used to obtain water, referred to as water resources. In general, water resources can be defined as resources in the form of useful water and/or has the potential to provide water for humans. As we know, water is the source of life and is used in agriculture, industry, households, recreation, and environmental activities. This clearly shows that every human living on this planet needs fresh water [17].

In meeting these water needs, the community needs knowledge, habits, and culture to carry out daily activities that have been passed down from generation to generation in utilizing water sources in their area. In managing these resources, the community lives side by side in harmony with the natural surroundings [17].

5. Conclusion

Based on the results of these secondary data, the majority population in Poasia District used more clean water facilities than well water from January to October 2022. Moreover, the percentage of clean water for household heads in Poasia District was higher using well water (7,609) than Local Water Supply Utility (1,465) of 9,074 household heads.

References

[1] Zora M, Gustina E, Ulfah M, Bina Husada S. Analisis Faktor-Faktor yang Berhubungan Dengan Akses Air Minum Aman di Wilayah Kerja Dinas Kesehatan Kabupaten OKU

Tahun 2021. *J Kesehat Saelmakers Perdana*. 2022;5(1):73–84.

[2] Hayati R, Irianty H, Mahmudah M. “Gambaran Kondisi Jamban Keluarga, Sarana Air Bersih Dan Pola Konsumsi Air Pada Masyarakat Kelurahan Surgi Mufti.” *An-Nadaa J* Kesehat Masy. 2021;8(1):73.

[3] WHO. “Water safety and quality.” 2020. https://www.who.int/water_sanitation_health/water-quality/en/

[4] Perpamsi, “Selamat Hari Air Dunia 2018.” 2018. https://perpamsi.or.id/berita/view/2018/03/22/468/selamat-hari-air-dunia-2018

[5] WHO. “WHO global water, sanitation and hygiene: Annual Report 2018.” 2019. https://apps.who.int/iris/bitstream/handle/10665/327118/WHO-CED-PHEWSH-19.147-eng.pdf?ua=1

[6] Rahman A, Tosepu R, Karimuna SR, Yusran S, Zainuddin A, Junaid J. Personal hygiene, sanitation and food safety knowledge of food workers at the university canteen in Indonesia. *Public Heal Indones*. 2018;4(4):154–161.

[7] Arisanto ZP, Tosepu R, Karimuna SR, Zainuddin A, Yasnani Y, Nurmaladewi N. The correlation between housing sanitation and existence of vectors in Kendari Sub Districts, Indonesia. *Public Heal Indones*. 2019;5(2):48–53.

[8] Suryandari R. “Teknologi dan Krisis Air.” 2022.

[9] Badan Pusat Statistik Sulawesi Tenggara. *No Titl*. [Online]. Available: https://sultra.bps.go.id/statictable/2022/03/11/3593/persentase-rumah-tanggamenurutkabupaten-kota-sumber-air-minum-bersih-dan-akses-air-minum-layak-2021.html

[10] Kemenkes. *Manfaat Air Bersih dan Menjaga Kualitasnya*. 2020. [Online]. Available: https://promkes.kemkes.go.id/manfaat-air-bersih-dan-menjaga-kualitasnya

[11] Menkes. Peraturan Menteri Kesehatan No.416 Tahun 1990 Tentang : Syarat - Syarat Dan Pengawasan Kualitas Air. *1990*.

[12] Muthaz BD, Karimuna SR, Ardiansyah RT. Studi Kualitas Air Minum Di Desa Balo Kecamatan Kabaena Timur Kabupaten Bombana Tahun 2016. *J Ilm Mhs Kesehat Masy*. 2017;2(5):1–9.

[13] Sugriarta E. Hygiene Sanitasi Depot Air Minum. *J Sehat Mandiri*. 2018;13(1):51–55.

[14] Kemenkes. *Laporan Riskesdas 2018 Provinsi Sulawesi Tenggara*. Jakarta, 2018.

[15] Efendy ZI, Syamsul D, Idawati. “Faktor yang Berhubungan Tingkat Konsumsi Air Bersih pada Rumah Tangga di Kecamatan Peudada Kabupaten Bireun.” *J Biol Educ*. 2019;7(November):110–126.

[16] Suryani AS. Pembangunan Air Bersih dan Sanitasi saat Pandemi Covid-19. *Aspir J Masal Sos*. 2020;11(2):199–214.

[17] Lestari F, Susanto T, Kastamto K. Pemanenan Air Hujan Sebagai Penyediaan Air Bersih Pada Era New Normal Di Kelurahan Susunan Baru. *SELAPARANG J Pengabdi Masy Berkemajuan*. 2021;4(2):427.

[18] Syam DM, Hasanudin, Arianti R. "Hubungan Penggunaan Sarana Air Bersih dan Jamban Keluarga dengan Kejadian Schistosomiasis di Kecamatan Lindu". *Higiene*. 2017;3(3):185–190.

[19] Menkes, Keputusan Menteri Kesehatan Republik Indonesia Nomor 1405/MENKES/SK/XI/*2002*. 2002. pp. 1–22.