
DISTRIBUTION OF DIARRHEA DISEASE IN GUNUNGPATI PUBLIC HEALTH CENTER, SEMARANG CITY, 2022-2024

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Abstract . Diarrhea Still become problem health important communities, especially in developing countries . Research this aim for describe distribution disease diarrhea in the work area Community Health Center Gunungpati, Semarang City, in 2022–2024. Research This use design descriptive quantitative with utilize secondary data sources from report surveillance diarrhea, System Information Health Center, and profile health. All case recorded diarrhea during period study made into subject study with total sampling method. Data were analyzed in a way descriptive and presented in form mapping distribution based on location place stay patient and type gender. Research results show existence trend improvement case diarrhea during three year consecutively. Subdistrict Pongangan in a way consistent become an area with amount case highest in 2023 and 2024, while Ward Jatirejo take notes amount case lowest every year. Based on type gender, case diarrhea more Lots occurs in women compared to male. Findings This indicates that difference condition sanitation environment, access to clean water, and behavior life clean and healthy inter- regional contributions to variation incident diarrhea, so that effort promotive and preventive need strengthened especially in risk areas tall.

Keywords: diarrhea , distribution spatial , health center , sanitation

INTRODUCTION

Diarrhea Still be one of problem important health for public Because cause many people are sick, especially children toddler (1). Diarrhea is condition bowel movements that are consistent liquid or soft, occurs at least three times in a day, usually caused by infection bacteria, viruses, or parasites that enter

through mouth and out through the anus. Globally diarrhea is reason main disease and death in children, especially in developing countries. Disease the can happen Because factor environment (2). The environmental factors referred to is with condition environment not enough clean , uninterrupted access to water adequate, and habit life that is not healthy. Clean and Healthy Living Behavior (PHBS) also has role important in incident diarrhea. Behavior like wash hand use soap proven relate significant with incident diarrhea, so that improvement practice hygiene public become one of the main strategies in prevention disease this (3). According to WHO and UNICEF, diarrhea Still be one of reason main death child under 5 years throughout the world (4). In Indonesia, diarrhea Still often found in the facility health level first and become indicator important in evaluate success effort prevention disease through environment and behavior life healthy (5) . Data from the Ministry of Health of the Republic of Indonesia shows that diarrhea in a way consistent including in ten big disease most in health centers, especially in areas with coverage sanitation basic and drinking water worthy that has not been evenly(6).

Community Health Center Gunungpati is facility service health level the first one in the District Gunungpati, Semarang City, Central Java. Work area covers a number of ward with characteristics geographical hilly and semi- rural areas. Based on data from Community Health Center 2022-2024 diarrhea including in ten big disease disease contagious handled in the region Work Community Health Center Gunungpati. Community Health Center This organize effort health individuals and efforts health society, including service promotive, preventive, curative, and rehabilitative(7).

In context control disease contagious, Community Health Center Gunungpati play a role in surveillance epidemiology, recording and reporting disease, implementation of the STBM program, and empowerment public through cadre health. Diverse regional characteristics from side sanitation and access to clean water make diarrhea as one of the problem health priorities in the work area Community Health Center Gunungpati (8). Routine recording and reporting of health centers show that throughout 2022-2024 with variation between ward fostered. Distribution case the related with difference condition sanitation base House stairs, availability of drinking water worthy, and Achievement of the Community- Based Total Sanitation (STBM) program in the work area Community Health Center Gunungpati.

Apart from the factors environment, success in handling diarrhea is also very dependent on access Health services and follow rule standard handling diarrhea like giving oralit and zinc. Other studies show the same result, that if oralit and zinc are given in a way right, then duration sick, level severity as well as risk complications diarrhea in children and adults can decreased (9). Data from Community Health Center Gunungpati handling diarrhea already in accordance existing standards, however need strengthened education to community and improved role cadre health so that coverage service as well as the quality can increased (10). Research objectives This is know distribution disease diarrhea in the work area Community Health Center Gunungpati with mapping of risk areas.

METHODS

Types of research This is study descriptive quantitative purposeful For describe distribution distribution case diarrhea in a way systematic research carried out in the work area Community Health Center Gunungpati,

Semarang City. Population in study This covers all over diagnosed patients disease diarrhea and recorded in system information health as well as nursing register book road to the Community Health Center Gunungpati during period 2022-2024. Data collection techniques samples used is total sampling, where all cases that meet the requirements criteria inclusion namely patient with identity and address clear domicile in the work area Community Health Center taken as subject research. The data used is secondary data sourced from from report monthly Control Program Disease (P2) Diarrhea, System Information Community Health Center (Simpus), as well as Health Profile of Gunungpati Community Health Center. This quantitative descriptive study applies a Geographic Information System (GIS) approach using QGIS software to analyze the spatial distribution of diarrhea cases in the Gunungpati Community Health Center's work area. The research procedure begins with the collection of spatial data in the form of village administration maps in Shapefile (.shp) format and attribute data on the number of diarrhea cases sourced from routine community health center surveillance reports. Data integration is carried out using a table join technique to connect epidemiological data with geographic entities based on the corresponding village identity. Next, a visualization analysis is carried out using graduated symbology settings to produce a choropleth map, with data classification grouped based on the Natural Breaks (Jenks) method to represent the gradation of case vulnerability levels. The final stage includes a layout process to compile standard cartographic elements—including titles, legends, scales, and cardinal direction orientation—to produce a thematic map that functions as a Local Area Monitoring (PWS) instrument in supporting spatial evidence-based public health policymaking.

RESULT

Based on results obtained for 3 years lastly, namely 2022-2024, cases diarrhea in the work area Community Health Center Gunungpati experience increase. Distribution case diarrhea distributed in a number of map every he knows under this :

A. Distribution Disease Diarrhea By Location

1. Distribution Disease Diarrhea By Patient Location in 2022

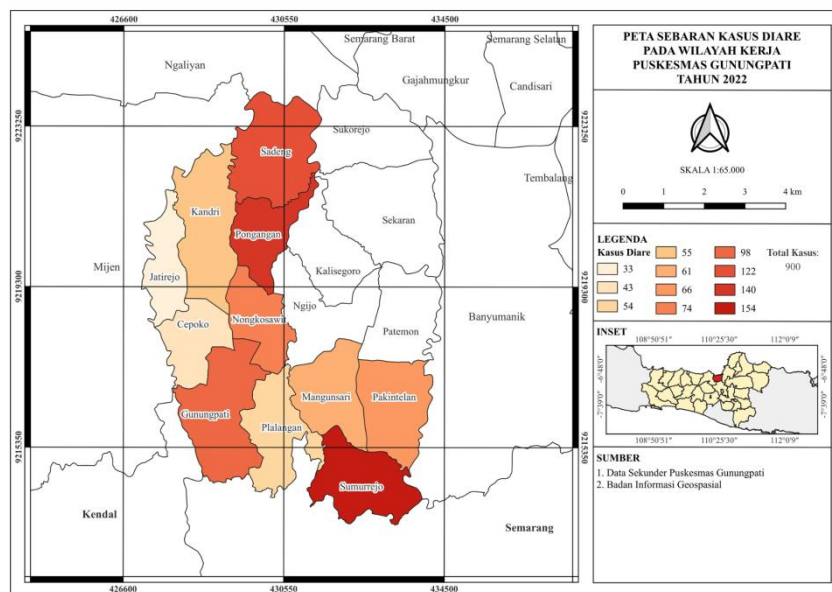


Figure 1.1 Distribution Map Diarrhea 2022

Based on mapping distribution disease diarrhea in the work area Community Health Center Gunungpati 2022 is known that there is as many as 900 cases diarrhea. Subdistrict Sumurrejo become sub-districts that have case diarrhea highest in the work area Community Health Center Gunungpati with total of 154 cases, and the sub-districts that have amount case lowest is ward Jatirejo with amount case diarrhea as many as 33 cases.

2. Distribution Disease Diarrhea By Patient Location in 2023

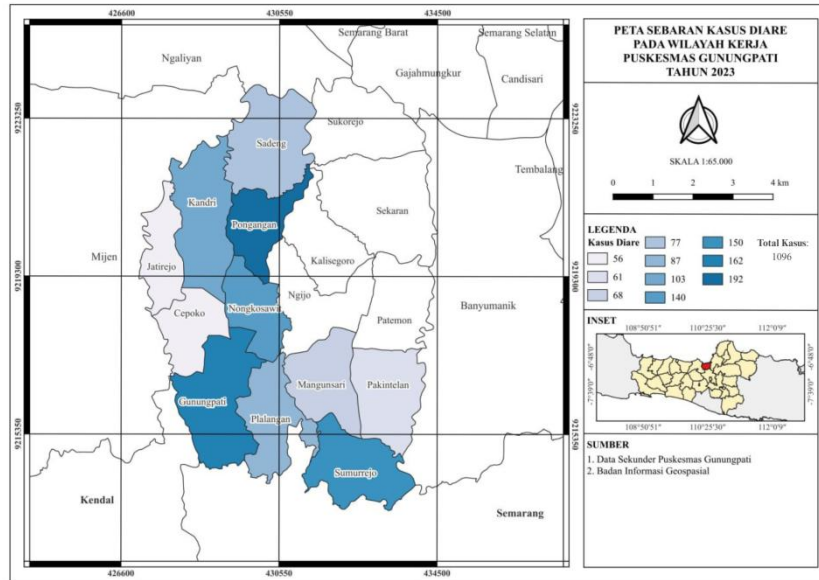


Figure 1.2 Distribution Map Diarrhea 2023

Based on mapping distribution disease diarrhea at the Community Health Center Gunungpati 2023 is known that the area that has case diarrhea highest is ward Pongangan with amount case diarrhea as many as 192 cases, and areas with case diarrhea lowest is Cepoko sub-district and sub-district Jatirejo with amount same case that is as many as 56 cases diarrhea.

3. Distribution Disease Diarrhea By Patient Location in 2024

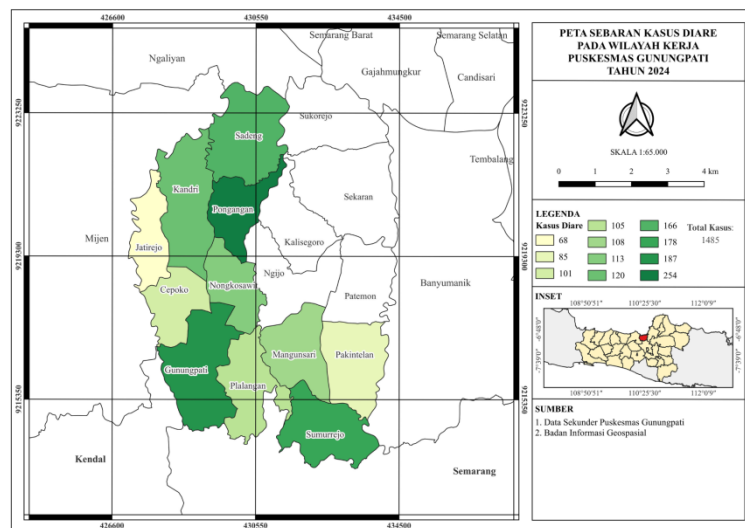


Figure 1.3 Distribution Map Diarrhea 2024

Based on mapping distribution disease diarrhea in the work area Community Health Center Gunungpati 2024 number case diarrhea experience increase If compared to with 2022 and 2023. In 2024 the distribution disease diarrhea at the Community Health Center Gunungpati, it is known that the area that has case diarrhea highest is ward Pongangan with increase amount case diarrhea to 254 cases, and the area with case diarrhea lowest is ward Jatirejo that is as many as 68 cases diarrhea.

B. Distribution of Diarrhea Cases By Gender

1. Distribution Disease Diarrhea By Gender

Table 1. Distribution Disease Diarrhea By Gender

Year	Man	Woman
2022	43%	57%
2023	47%	53%
2024	47%	53%

Based on the table above, during three year consecutively, cases diarrhea based on type sex at the Community Health Center Gunungpati can known that majority patients who experience diarrhea is women. In the table said, the number patient affected diarrhea diarrhea dominate half more amount case.

2. Distribution Disease Diarrhea By Gender Every Ward

Table 2. Distribution Disease Diarrhea By Gender Every Ward

WARD	2022		2023		2024	
	Man	Woman	Man	Woman	Man	Woman
Cepoko	15	28	30	26	41	60
Gunungpati	39	59	70	92	78	109
Jatirejo	15	18	32	24	27	41
Kandri	24	31	57	46	48	72
Mangunsari	21	40	32	36	34	74
Nongkosawit	35	39	57	86	45	68
Pakintelan	36	30	26	35	29	56
Planangan	27	27	43	44	45	60
Pongangan	57	83	87	109	111	143
Sadeng	59	63	39	38	79	87
Sumurrejo	55	99	68	82	92	86
TOTAL	383	517	541	611	629	856

Based on table distribution disease diarrhea experienced public based on type gender in each sub-districts in the work area Community Health Center Gunungpati 2022–2024 can known that amount case diarrhea experience improvement from year to year. In 2022, the total number of cases recorded diarrhea in men as many as 383 cases and women as many as 517 cases. The number This increased in 2023 to 541 cases in men and 611 cases in women, as well as return increased in 2024 to 629 cases in men and 856 cases in women. Kelurahan Pongangan show amount case diarrhea highest in every years , both in men and Woman. On the contrary, some ward such as Cepoko and Jatirejo own amount relative cases more low compared to ward others, although still show existence improvement from year to year.

DISCUSSION

Based on the data collected from 2022 to 2024, it is seen that disease diarrhea in the work area Community Health Center Gunungpati experiencing an upward trend every year. This is show that diarrhea Still become threat serious health for public local. Handling medical at the community health center This Actually Already follow standards, such as use oralit and zinc, however factor environment and behavior it seems Still become trigger main increasing amount case. Increase case diarrhea from year to year This Actually No phenomenon new in Central Java. Data from the Central Java Health Office in 2022 reported 86 thousand more cases in the province this, especially in rural areas where sanitation the environment Still problematic (11).

A. Distribution Disease Diarrhea By Location

1. Analysis Distribution of Patient Locations 2022

In 2022, there were a total of 900 people diagnosed diarrhea in this area. From the results mapping, sub-district Sumurrejo take notes number most sufferers compared to ward others, namely reached 154 people. Meanwhile that, Kelurahan Jatirejo become an area with amount the fewest sufferers, namely only 33 people. The height figures in Sumurrejo in the year This possibility big affected by problems with the facilities sanitation base as well as limitations access to real drinking water clean for inhabitant.

Of the total 900 cases diarrhea in 2022, distribution case highest located in the sub-district Sumurrejo with 154 cases. Next followed by the Subdistrict Pongangan as many as 140 cases and Sadeng Subdistrict as many as 122 cases. Gunungpati recorded 98 cases, Kelurahan Nongkosawit 74 cases, and Kelurahan Pakintelan as many as 66 cases. The number relative cases more low found in the sub-district Mangunsari as many as 61 cases, Kelurahan Kandri 55 cases, Kelurahan Plalangan 54 cases, Cepoko Subdistrict 43 cases, and Kelurahan Jatirejo as a region with amount case lowest namely 33 cases.

Cases piling up in Sumurrejo This of course Already often occurred in Central Java. Research local find if the septic tank is too near with well can cause risk diarrhea jumped 43 times due to polluted water bacteria (12).

2. Analysis Distribution of Patient Locations 2023

Entering 2023, the center distribution case start shifted. Subdistrict Pongangan become an area with level the highest transmission, with amount sufferers soaring up to 192 people. For areas with the lowest case, there are two sub-districts namely Cepoko and Jatirejo which are both take notes the number of 56 sufferers. Although Jatirejo stay in position lowest, occurs increase amount patient compared to year previously, which indicates that risk disease start spread more wide to previously occupied areas relatively safe.

In 2023, the total number of cases diarrhea increase to 1,096 cases. Subdistrict Pongangan occupy position highest with total of 192 cases, followed by the sub-district Gunungpati as many as

162 cases and the sub-district Sumurrejo as many as 150 cases. Subdistrict Nongkosawit recorded 140 cases, Kelurahan Kandri 103 cases, and Kelurahan Plalangan 87 cases. Meanwhile that, Sadeng Subdistrict recorded 77 cases, Sadeng Subdistrict Mangunsari 68 cases, and Kelurahan Pakintelan 61 cases. Region with amount case lowest in the year this is ward Jatirejo and Cepoko subdistricts each recorded 56 cases.

Pongangan in a way suddenly become center case this year 2023 own similarities with pattern cases in Semarang City. Quarterly data Central Java Health Office 2024 shows season rain and sanitation full capacity can trigger addition cases 20-30 percent (13).

3. Analysis Distribution of Patient Locations 2024

In 2024, the situation distribution diarrhea reach point the highest compared to the years previously. Subdistrict Pongangan return become the most affected area with increase a very significant case, namely as many as 254 people are suffering. On the other hand, the sub-district Jatirejo still endure as a region with least cases although the number also increased to 68 people. Consistency height case in Pongangan for two years consecutive This indicates the need repair deep into the system sanitation environment and supervision water quality in the sub-district the.

Amount case diarrhea return experience improvement to 1.485 cases. Subdistrict Pongangan Still become an area with case highest namely 254 cases. Next followed by the Subdistrict Gunungpati as many as 187 cases, Subdistrict Sumurrejo 178 cases, and Sadeng Subdistrict 166 cases. Kandri recorded 130 cases, Kelurahan Nongkosawit 113 cases, Subdistrict Mangunsari 108 cases, Subdistrict Plalangan 105 cases, and Cepoko Subdistrict 101 cases. Pakintelan recorded 85 cases, while Ward Jatirejo still become an area with amount case lowest namely 68 cases.

Continuous Pongangan become regional center for two years consecutive This reminiscent of the STBM program in Semarang. Toilets healthy and five other pillars proven can pressing number case diarrhea in a way significant according to studies local (14) .

B. Distribution of Diarrhea Cases By Gender

1. Patient Gender Analysis 2022

If you see profile sufferers based on type gender in 2022, found that part big patient is women. The percentage reached 57%, while patient man is at 43 %. This is can associated with activity more women lots interact with processing food and water cleanliness in the kitchen, so risk exposed bacteria reason diarrhea become more big If standard cleanliness hands and food no awake with good.

Based on data from a total of 900 cases diarrhea in 2022, patients man recorded as many as 383 people, while patient woman as many as 517 people. This data show that in a way amount and proportion, cases diarrhea more lots experienced by women.

The figure is 57% in women this of course often appears in the Riskesdas data. Female toddlers recorded own prevalence diarrhea 10.5% more tall compared to men in the area like Gunungpati (15). Results of the research This show existence significant relationship between type sex toddler with management diarrhea given (16).

Toddler with type sex man own management good diarrhea compared to with toddler women. There is gender inequality in toddlers men and women so that Mother prioritize management diarrhea in toddlers male (17).

2. Patient Gender Analysis 2023

In 2023, the pattern sufferers based on type sex still dominated by groups women. Although the difference no as sharp as year previously, percentage patient woman still more tall namely 53%, and men by 47%. This data show that vulnerability to diarrhea in the Gunungpati area Still still high in the group the most frequent community touch with environment House ladder.

Of the total 1,096 cases diarrhea , amount patient man recorded as many as 541 people and patients woman as many as 611 people. Although difference amount no too far away , woman still dominate amount case compared to men. 2023 SKI data which is continuation Riskesdas also captures pattern similar. Prevalence diarrhea at home ladder Keep going fluctuating but still high in the group mothers (18).

3. Patient Gender Analysis 2024

In 2024, the difference amount sufferers between men and women return widen Enough far away. Patient various sex Woman take notes number highest during three year lastly, namely by 59%, while patient man decrease in a way proportional to 41%. The height numbers in women in a way continuously during three year this emphasize that educational program health or PHBS (Clean and Healthy Living Behavior) must more focused to mothers house stairs and people woman as the vanguard guard health family.

Improvement case diarrhea is also accompanied by an increase amount patient based on type gender. Of the total 1,485 cases, patients man totaling 609 people, while patient Woman reached 876 people. The gap amount This the more confirm domination case diarrhea in groups women. NAPPD 2023-2030 from Ministry of Health Already map this with clear. Diarrhea still so murderer main toddler with upward trend, that's why PHBS must be more intense for woman.

CONCLUSION

Based on results case data analysis diarrhea in the work area Community Health Center Gunungpati in term 3 years in succession participate that is 2022 to in 2024, can concluded that disease diarrhea Still become problem health sufficient society serious. Amount case show trend improvement from year to year, with quite a surge significantly in 2024. This is indicates that effort existing prevention moment this not yet fully capable pressing rate incident diarrhea in the community Gunungpati.

In terms of geographical data, distribution case diarrhea at the Community Health Center Gunungpati no evenly between sub-district. Sub- district Pongangan in a way consistent become an area with amount case highest in 2023 and 2024, while Ward Jatirejo tend own amount lowest case although still experience improvement. Difference this show existence influence condition environment, sanitation basic , and inadequate access to clean water the same in every region, so risk diarrhea also varies from person to person areas in the work area Community Health Center Gunungpati.

Whereas seen based on characteristics type gender, during three year consecutive case diarrhea more Lots occurs in women compared to male. Dominance This allegedly related with role women, in particular Mother House stairs, which is more often relate with management food, water, and hygiene House stairs. If the practice hygiene and sanitation not optimal, then risk exposed germs reason diarrhea become more tall.

In a way general, although handling medical at the Community Health Center Gunungpati already follow standard like giving oralit and zinc, high number incident diarrhea show that approach promotive and preventive till need improved. There is innovation in repair condition environment, change behavior society, as well as strengthening of area -based programs, can become key solution in pressing burden disease diarrhea in the future or year next.

SUGGESTION

1. Gunungpati Community Health Center can strengthen promotion and prevention programs, especially PHBS (Clean and Healthy Living Behavior) education, sanitation, and drinking water safety, with a focus on high-risk sub-districts such as Pongangan and Sumurrejo.
2. The role of cadres health and the STBM (Community- Based Total Sanitation) program are necessary optimized, especially in monitor condition sanitation house stairs and provide routine counseling to public.
3. If necessary, can do development mapping case GIS - based periodically, so that the area with improvement case can more fast detected and handled in a way more appropriate target

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