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Relationship between latrine access with stunting in 20 villages of stunting focus, Pasuruan district

Nurul Izzah Ramadhani *

Department of Environmental Health, Faculty of Public Health, Airlangga University, Surabaya, Indonesia.

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Abstract

Stunting is still a major health problem in the world. Consumption of food contaminated with fecal pathogens due to open defecation due to poor access to latrines is known to cause intestinal infections which worsen the nutritional status of children by reducing appetite and absorption of nutrients, which can lead to nutritional loss. This study aims to describe and analyze access to healthy latrines and their relationship to cases of stunting in 20 villages of stunting focus in Pasuruan District in 2022. This research uses descriptive quantitative research methods with the Secondary Data Analysis (ADS) approach to see the relationship between access to healthy latrines and numbers stunting. The results showed that access to healthy latrines had no relationship with stunting cases. The absence of a significant relationship between access to healthy latrines and cases of stunting requires the local government, especially the Pasuruan District Health Office, to find out other risk factors further for the causes of stunting. The Pasuruan Regency Government must also have improvement efforts including Accelerating Equitable Access to Safe and Decent Sanitation, and other supporting efforts.

Keywords: Stunting; Latrine acces; ODF; ODs

1. Introduction

Stunting still be one problem health major in the world. Stunting is defined as low height according to age . In 2016 , there were 22.9% or 154.8 million toddlers suffering from stunting (WHO, 2017). Stunting can caused Because various factor. Start of health status Mother before and when pregnancy, gift nutrition to toddlers, and conditions environment as well as social status economy something family (Ministry of Health RI, 2018).

Environment as place related main direct with activity daily need become attention in handling stunting cases, especially regarding WASH (Water, Sanitation, and Hygiene). Studies earlier show that WASH practices affect nutritional status child, especially growth in children age early, In Indonesia, it is estimated more of 30 million people still open defecation (World Health Organization, 2017).

Open Defecation (OD) is a unhealthy behavior. Open defecation behavior in the environment can raises bad effect for individual health and society around (Present Sukma , Mursid , 2018). Consumption contaminated food causes by pathogen feces consequences of open defecation are known can cause intestinal infections that worsen nutritional status child with reduce lust eating and absorption nutrition , which can ends in loss nutrition (Dewey and Mayers , 2011; Cronin et al., 2017).

Open defecation itself can influenced minimal access tp proper sanitation. Sanitation can be changed to healthy latrine access. Healthy latrine access is means sanitation sanitary ware used for defecation (Permenkes Number 3 of 2014). In

* Corresponding author: Nurul Izzah Ramadhani

The National Economic Survey (Susenas) conducted by BPS, there are five classifications access sanitation that is safe, decent, not yet decent, sharing, open defecation in closed space , and open defecation in open space.

Pasuruan district is one of districts in the East Java which own highest rank number of stunting cases by 18.1% in 2022. In order to overcome stunting case, the Government of Pasuruan district issued a Governor's Decree Pasuruan No. 050/563/HK/424.013/2021 about Determination Focus Location Priority Intervention Reducing Integrated Stunting in the Pasuruan district in 2022. The decision load 20 villages that become stunting focus in the Pasuruan district in 2022. Based on decision such, then this study aim for describe and analyze healthy latrine access and its effects to stunting cases in 20 villages Stunting Locus in Pasuruan District).

2. Material and methods

This study use method study quantitative descriptive with approach Secondary Data Analysis (ADS) for see connection between access toilet Healthy with stunting rates in 20 locations district stunting focus Pasuruan 2022. Data taken based on the Decree of the Regent Pasuruan No. 050/563/HK/424.013/2021. Access data toilet Regency Pasuruan taken from government agencies that is archive of the STBM program from the District Health Office Pasuruan 2022. Data is processed using the Pearson test and analyzed use bivariate analysis.

3. Results and discussion

Table 1 Distribution Access to latrines is safe, proper, not yet proper, sharing, defecation in closed places (DCP), defecation in open places (DOP) and stunting.

Village	%stunting	% Safe	% Proper	% Not yet Feasible	% Sharing	% DCP	% DOP
Jangjangwulung	45,59	0	69.3	22.46	8.24	0	0
Kemiri	56,06	0	42.71	44.37	12.91	0	0
Plososari	28,8	0	81.54	13.96	1.63	2.03	0.83
Segoropuro	14,5	0	66.8	0.4	0	0.1	32.73
Kawisrejo	4,33	2.47	51.12	0	11.75	15.04	19.62
Manikrejo	3,25	0	91.2	0.9	0.18	0.54	7.18
Dandang Gendis	25,36	30.25	65.5	1.21	3.09	0	0
Kedawang	1,19	21.51	67.4	0.55	3.19	1.91	5.47
Ampelsari	9,74	0	46.8	49.83	3.4	0	0
Sibon	22,6	0	46.94	18.35	8.81	3.96	21.94
Ngantungan	12,64	0	16.7	32.78	1.05	45.12	4.35
Pohgedang	18,7	0.31	60.33	0.42	3.43	5.71	29.8
Tamansari	18,5	0	84.24	2.31	1.71	0	11.75
Kluwut	28,19	0	94.41	0	2.43	0.45	2.7
Kendangdukuh	18,45	0	57.3	3.47	0	3.47	35.78
Sumberpitu	26,38	0	85.6	11.07	3.34	0	0
Sedaeng	11,39	0	100	0	0	0	0
Genengwaru	15,63	0	80.4	0	12.75	0.13	6.71
Wonokoyo	0,33	0	100	0	0	0	0
Klangrong	38,62	0	57.81	3.3	6.16	0.6	32.13

Source: Secondary Data of Public Health Office of Pasuruan District, 2022

In Table 1 can be seen that the highest stunting cases were in Kemiri Village, Puspo District with 56.06% of stunting cases. Meanwhile, the lowest stunting cases were in Wonokoyo Village, Beji District with 0.33% of stunting cases. Village that have highest safe latrine acces namely Dandanggendis with a percentage of 30,25%. Village that have highest proper latrine acces namely Kluwut with a percentage of 94,41%. There are 7 villages that have access to latrines and do not doing open defecation, namely Janjangwulung Village, Kemiri Village, Dandang Gendis Village, Ampelsari Village, Sumberpitu Village, Sedaeng Village, and Wonokoyo Village. Meanwhile, the village that has the lowest percentage of access to healthy latrines or still doing open defecation is Ngantungan Village with 50.52%.

Table 2 The Relationship between Latrine Access and Stunting

Latrine Access	N	Pearson Correlation	P Value
Safe	20	-0.126	0.597
Feasible	20	-0.192	0.418
Not yet Feasible	20	0.390	0.089
Sharing	20	0.437	0.054
DCP	20	-0.204	0.389
DOP	20	-0.056	0.815

Source: Pearson Statistics

The results of the Pearson test performed by the SPSS application showed that the correlation between safe latrine categories did not meet the requirements, namely $p=0.597$ ($p>0.05$). This illustrates that there is no relationship between access to the safe category of latrines and the incidence of stunting in the stunting locus villages. The category of proper latrines does not meet the requirements, namely $p=0.418$ ($p>0.05$). This illustrates that there is no relationship between access to a decent category of latrines and the incidence of stunting in the stunting locus villages. The category of inadequate latrines did not meet the requirements, namely $p=0.089$ ($p>0.05$). This illustrates that there is no relationship between access to latrines in the inadequate category and the incidence of stunting in the stunting locus villages. The category of sharing latrines did not meet the requirements, namely $p=0.054$ ($p>0.05$). This illustrates that there is no relationship between access to latrines in the sharing category and the incidence of stunting in stunting locus villages. The DCP category (defecation in closed places) did not meet the requirements, namely $p=0.389$ ($p>0.05$). This illustrates that there is no relationship between DOP (open defecation in closed places) and the incidence of stunting in the stunting locus village. The DOP category (open defecation) did not meet the requirements, namely $p=0.815$ ($p>0.05$). This illustrates that there is no relationship between DOP (open defecation) and the incidence of stunting in the stunting locus village. This illustrates that there is no relationship between DCP (open defecation in closed places) and the incidence of stunting in the stunting locus village. The DCP category (open defecation in closed places) did not meet the requirements, namely $p=0.815$ ($p>0.05$). This illustrates that there is no relationship between DOP (open defecation) and the incidence of stunting in the stunting locus village. This illustrates that there is no relationship between DCP (open defecation in closed places) and the incidence of stunting in the stunting locus village. The DCP category (open defecation in closed places) did not meet the requirements, namely $p=0.815$ ($p>0.05$). This illustrates that there is no relationship between DOP (open defecation) and the incidence of stunting in the stunting locus village. This illustrates that there is no relationship between DCP (open defecation in closed places) and the incidence of stunting in the stunting locus village. The DOP category (open defecation) did not meet the requirements, namely $p=0.815$ ($p>0.05$). This illustrates that there is no relationship between DOP (open defecation) and the incidence of stunting in the stunting locus village.

The highest stunting case rate was in Kemiri Village, Puspo District (56.6%), which is still far from the standard stunting case in Indonesia, which is 25.2%. This shows that there are risk factors for stunting that are still found in the village and have not been handled properly. Ngantungan Village is the village with the lowest access to healthy latrines (50.52%). It is still does not meet the target of Pasuruan Regency (100% village free from open defecation). Villages that do not yet have access to good healthy latrines show that the community-based total sanitation has not been implemented optimally, especially for the first pillar regarding open defecation. In addition, there are still villages that have not achieved ODF (Open Defecation Free) village status. These villages include the villages of Segoropuro, Kawisrejo, Plososari, Manikrejo, Kedawang, Sibon, Ngantungan, Pohgedang, Tamansari, Kluwut, Kendangdukuh, and Klangrong. A village is said to have achieved ODF status when there are no individuals who defecate in the open.

The six Access to Healthy Latrines has no correlation with stunting rates in 20 stunting locus villages in Pasuruan Regency. However, the Pearson correlation value for the sharing latrine access category has a moderate correlation. Compared to other categories, it has a weak correlation value, the category is not yet feasible, even for the safe, proper, open defecation in closed and open places there is no correlation or relationship between the two variables.

Based on the Pearson test, access to latrines has no relationship with cases of stunting. Stunting itself is caused by many factors, one of which is sanitation. Sanitation in 20 Locus Stunting Villages, Pasuruan Regency, is said to be quite good. This is evidenced by the achievement of 7 ODF villages in the Stunting Location Village.

4. Conclusion

Based on the results of the analysis, it was explained that stunting is a nutritional problem that is still a health burden in various regions, including Pasuruan Regency. Access to healthy latrines needs to be a concern in handling stunting. Based on the results of the analysis, it was found that :

- Villages with access to latrines that do not reach 100% tend to have a low number of stunting cases.
- There are four villages that do not doing open defecation, but still have high stunting cases

The absence of a significant relationship between access to healthy latrines and cases of stunting requires the local government, especially the Paduruan District Health Office, to further find other risk factors for stunting. The government of Pasuruan Regency must also have improvement efforts including Accelerating Equitable Access to Safe and Decent Sanitation, and other supporting efforts.

Suggestions for activities to accelerate access to healthy latrines:

- Supervise and guide health center sanitarians to improve the implementation of environmental health services sustainably in Pasuruan District
- Provide recommendations and develop follow-up plans for villages that still do not meet the requirements and access to healthy latrines
- Facilitate the availability of facilities and infrastructure that support the implementation of environmental health services at the local government clinic.
- Formation of working groups and regional coordinators to facilitate information dissemination and submission of suggestions, opinions, and input related to community monitoring of open defecation and healthy latrines
- Strengthening and accelerating the community-based total sanitation program in villages through multi-sectoral efforts (evaluation of stakeholders, including sub-district heads, and heads of health centers) to make ODF and have healthy latrines.
- Monitoring and supervision can be in the form of monitoring and evaluation related to open defecation by the local government clinic at least 2 times a year

Suggestions for the Management of Stunting Case

- Focus group discussion (FGD) with related agencies, cross-sectors, and CSR regarding strategies to reduce stunting and its causes.
- An innovation program that involves related agencies, stakeholders, the business world, industry, and society. According to Pasuruan Regency's flagship program in preventing and reducing stunting
- Education and counseling for prospective brides regarding the importance of nutritional status during pregnancy, breastfeeding, and the first 1000 days of babies life.
- Socialization and provision of additional feeding to pregnant women, toddlers, and monitoring of the nutritional status of young women

Compliance with ethical standards

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Conflict of interest statement

No potential conflict of interest was reported by the authors.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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