

# ENVIRONMENTAL FACTORS AND DIARRHEA PREVALENCE AMONG WOMEN IN THEIR REPRODUCTIVE AGES IN GHANA

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## Abstract

Environmental factors have been found to be associated with different forms of health outcomes. In this study, we examine the patterns between household environmental factors and diarrhea prevalence among Ghanaian women in their reproductive ages. Specifically, the environmental elements we assess are sources of drinking water, the type of toilet facility used, and whether or not the toilet facility is shared with other households. We use the women's data from the Ghana Demographic and Health Survey of 2014. Out of a total of 9,396 women, we selected cases of women who acknowledged that they have had diarrhea within the last two weeks preceding the survey (N=556). Results show that of the women who have had diarrhea, 73% use borehole/well as main source of water. Regarding type of toilet facility used, 54% of women who have had diarrhea in the two weeks preceding the survey use Ventilated Pit latrines compared to seven percent who flushed to a sewer of some kind. Prevalence of diarrhea was low among women who did not shared toilet facility.

## 1 Introduction

- Household environmental elements such as biomass combustion, inadequate sanitation infrastructure, and living arrangements present various environmental health risks.
- Inadequate portable drinking water, sanitation, and hygienic conditions are crucial risk factors with implications for disease burden.
- Environmental health risk may lead to adverse health outcomes such as high blood pressure, shortness of breath, and cough.

## 2 Main Objective and Research Questions

To examine the patterns between household environmental factors and diarrhea prevalence among Ghanaian women in their reproductive ages.

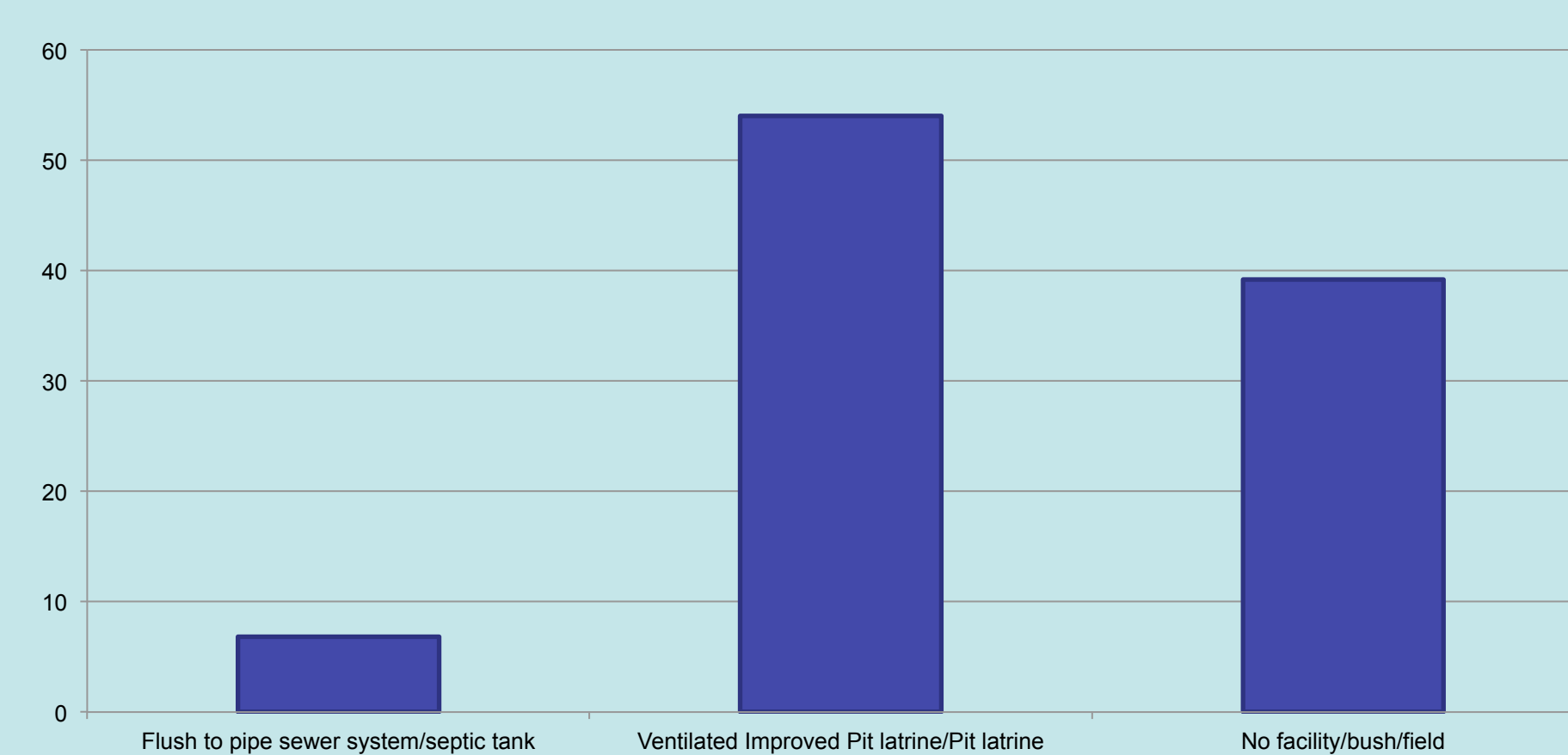
- What are the patterns between diarrhea prevalence and sources of drinking water?
- What are the patterns of diarrhea prevalence and type of toilet facilities used?
- What are the patterns between diarrhea prevalence and shared toilet facilities?

## 3 Materials and Methods

- Data: Women's data from the Ghana Demographic and Health Survey (GDHS) of 2014
- Total Sample Size of GDHS: 9396
- Cases Selected for this Study: 556
- Analyses: Run Frequencies (SPSS)

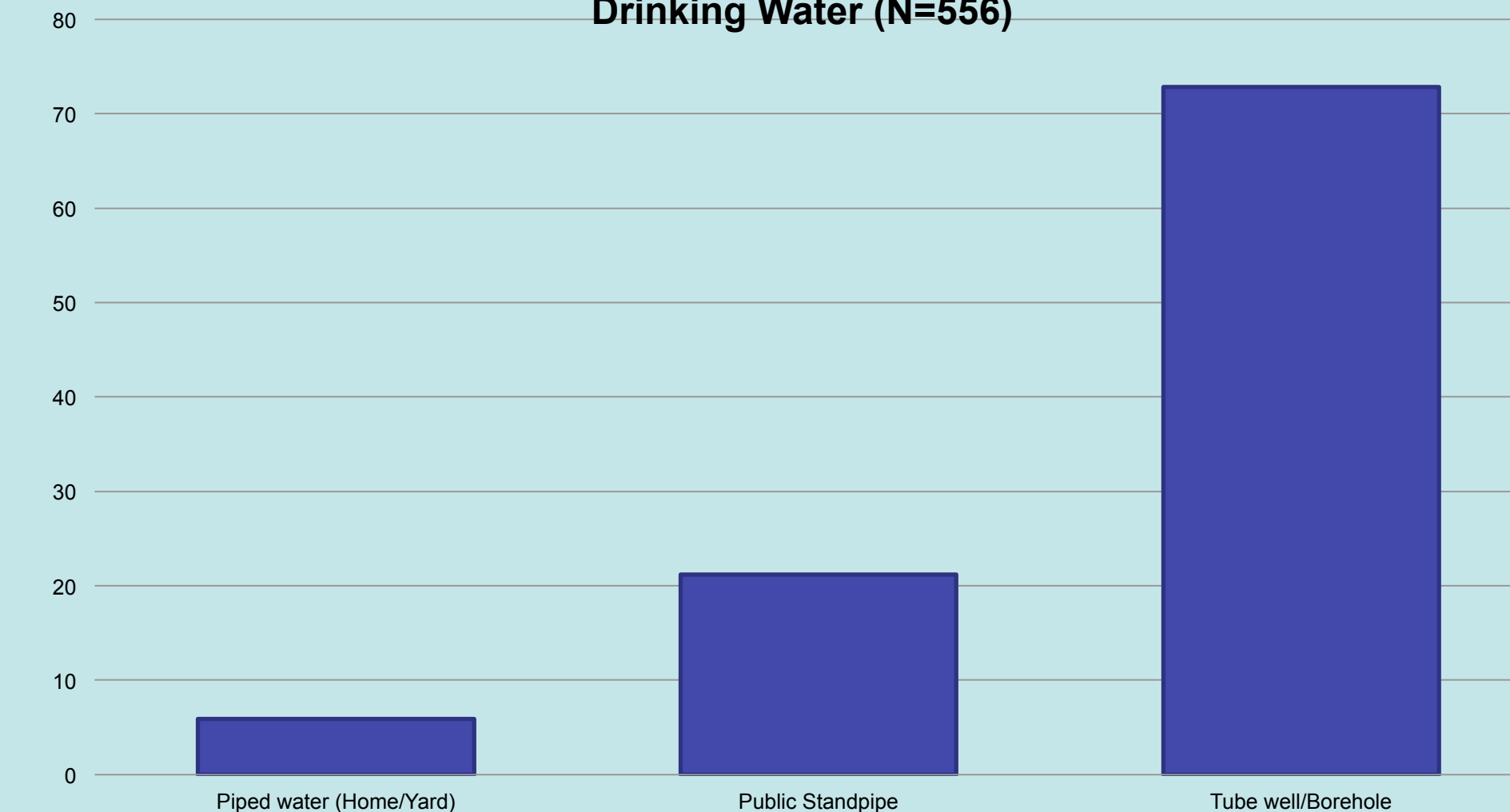
## 4 Results

Relationship between Diarrhea Prevalence and Type of Toilet Facility (N=556)

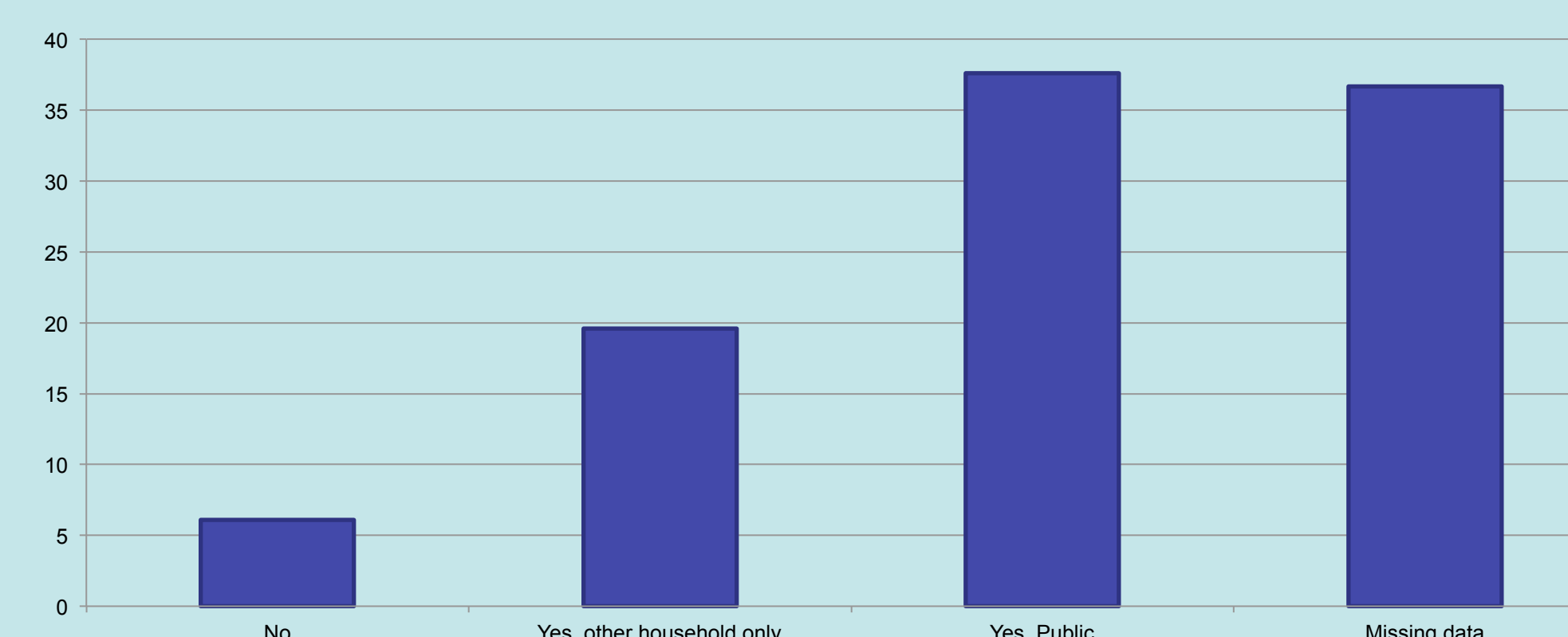


## Results

Relationship between Diarrhea Prevalence and Sources of Drinking Water (N=556)



Relationship between Diarrhea Prevalence and Shared Toilet Facility (n=352; N=556)



## 5 Conclusion and Future Work

- We conclude that there seems to be a relationship between household environmental factors and diarrhea prevalence among women in their reproductive ages in Ghana.
- Future studies will be needed in order to focus on establishing statistically significant associations.

## 6 References

- Chakraborty, D., Mondal, N. K., & Datta, J. K. (2014). Indoor pollution from solid biomass fuel and rural health damage: A micro-environmental study in rural area of Burdwan, West Bengal. *International Journal of Sustainable Built Environment*, 3(2), 262-271.
- Dutta, A., Brito, K., Khrastova, G., Mueller, A., Chinthala, S., Alexander, D., ... & Adigun, K. (2017). Household air pollution and angiogenic factors in pregnant Nigerian women: A randomized controlled ethanol cookstove intervention. *Science of The Total Environment*, 599, 2175-2181.

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