

The effects of microplastics on human health have been researched and explored for years, yet there are very few studies discussing the health effects of microplastic pollution in developing countries. Previous research thoroughly investigates microplastic pollution in water, air, and food, as well as health complications that may arise from them, but these studies seem to be conducted in already-developed, first world countries, such as the United States, or the UK. As many studies on microplastic pollution in developing countries had not yet been published, there resulted a lack of coverage on this subject. I found that India was the biggest producer of mismanaged plastic waste globally, and focused on that country as its citizens were at the highest risk of plastic exposure due to the amount of plastic waste lying around. I used government-published data from India to highlight the correlations between plastic pollution and three prominent health issues in order to establish a potential link between them. I focused on breast cancer, lung cancer, and tuberculosis, as these health issues were the most redundant in other microplastic related research, and plastic pollution from the air and the ground. Through side by side comparisons of the prominence of health issues in each state, I was able to highlight some interesting findings.

I found that while there did not seem to be a link between tuberculosis and ground pollution, there was a correlation between cancer and ground pollution. Meanwhile, both tuberculosis and cancer rates seem to be correlated to air pollution, indicating a potential link between them. Lung cancer and breast cancer were both listed as one of the top 5 most prevalent cancers in each state, which suggests that the high levels of plastic in air pollution have an impact on these cancers.

More research would need to be done to solidify these conclusions, by comparing these findings to findings from other countries with similar levels of plastic pollution, and countries with varying levels of plastic pollution. However, this project indicated which problems would need to be focused on in the second part. The findings can be used by health organizations to focus their resources on the issues highlighted by this study, and find more concrete evidence linking microplastic pollution to health issues, emphasizing the need to reduce global plastic pollution.