# Article information:

Opportunistic pathogens and their health risk in four full-scale drinking water treatment and distribution systems - ScienceDirect
<https://www.sciencedirect.com/science/article/abs/pii/S0925857420304225>

# Article summary:

1. Opportunistic pathogens (OPs) in drinking water systems are a leading source of disease outbreaks and pose a health risk to the public.

2. Full-scale drinking water treatment plants (DWTPs) use treatment trains to remove OPs, but they possess adaptive features that allow them to survive in DWTPs and distribution systems.

3. This study investigated the occurrence of OPs in four full-scale DWTPs in eastern China and assessed the efficiency of different treatment processes at controlling these OPs, using QMRA to estimate infection risks from specific OPs after drinking water treatment and distribution.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article "Opportunistic pathogens and their health risk in four full-scale drinking water treatment and distribution systems" provides a comprehensive overview of the occurrence of opportunistic pathogens (OPs) in drinking water treatment and distribution systems. The study investigates the efficiency of different treatment processes at controlling OPs and uses quantitative microbial risk assessment (QMRA) to estimate the infection risks from specific OPs after drinking water treatment and distribution.

The article is well-written, informative, and presents a significant amount of data. However, there are some potential biases that need to be considered. Firstly, the study only focuses on four full-scale DWTPs in one city of eastern China, which may not be representative of other regions or countries. Therefore, the results cannot be generalized to other areas without further investigation.

Secondly, the article mainly focuses on the occurrence of OPs in drinking water systems but does not provide sufficient information about their sources or how they enter into these systems. This information is crucial for developing effective strategies to control OPs in drinking water systems.

Thirdly, while the study identifies several OPs that pose a health risk to humans, it does not provide enough evidence to support its claims about their prevalence or severity. For example, the article mentions that Naegleria fowleri has a mortality rate over 90%, but it does not provide any evidence to support this claim.

Fourthly, the article does not explore counterarguments or alternative perspectives on how to control OPs in drinking water systems. For instance, it only briefly mentions biological activated carbon (BAC) filtration as an alternative approach but does not discuss its limitations or potential drawbacks.

Finally, while the study acknowledges that there are still OPs present in finished water and tap water despite meeting microbial safety standards for total coliforms and total heterotrophic bacteria counts, it downplays their potential health risks by describing them as relatively small. This statement may underestimate the potential harm caused by these pathogens.

In conclusion, while this article provides valuable insights into the occurrence of OPs in drinking water treatment and distribution systems, it has some potential biases that need to be considered. Further research is needed to investigate how these pathogens enter into these systems and develop effective strategies for controlling them.

# Topics for further research:

* Sources of opportunistic pathogens in drinking water systems
* Alternative approaches to controlling opportunistic pathogens in drinking water
* Prevalence and severity of specific opportunistic pathogens in drinking water
* Limitations and drawbacks of biological activated carbon filtration
* Health risks associated with low levels of opportunistic pathogens in drinking water
* Occurrence of opportunistic pathogens in drinking water systems in other regions or countries

# Report location:

<https://www.fullpicture.app/item/643bd357a1cbec5dbd52f702a6d91e6d>