

E) is the capital of Hajjah
Sana'a is the capital of Yemen. It is a city of great challenges, among which poverty, ever growing population, extreme water scarcity and lack of access to clean water, inadequate infrastructural water utilities, and socioeconomic and political threats of the military conflict. Approximately 90% of the Yemeni natural water resources are devoted to grow chat (Qat), an unprofitable plant which is chewed by the vast majority of the inhabitants. This unhealthy and water-depleting crop must be gradually replaced by more beneficial

Water Turbidity

The turbidity of water was measured with the aid of a portable field turbidity meter (Digital Portable Turbidity Meter U.K. Range; 0-1000 NTU), with turbidity range of 0 - 19.99 NTU and resolution of 0.01/0.1/1 NTU. The units of turbidity from a standardized nephelometer are named Nephelometric Turbidity Units (NTU). According to the World Health Organization (WHO), the turbidity levels in drinking water should not be more than 5 NTU, and must perfectly be below 1 NTU.

Electrical conductivity (EC)

Electrical conductivity (EC) was determined in water samples using HANNA EC-meter Model H199301.

Discussion

The discussion section of the study on physicochemical parameters and heavy metals in groundwater from Hajjah Governorate, Yemen, presents a comprehensive analysis and interpretation of the findings. Here, the researchers delve into the implications of the observed results, comparing them with existing literature and addressing any discrepancies or similarities [6].

One key aspect of the discussion is the assessment of the physicochemical parameters of the groundwater. This includes parameters such as pH, conductivity, total dissolved solids (TDS), and turbidity. The researchers analyze these parameters in relation to established standards and guidelines, highlighting any deviations and their potential causes. For instance, they may discuss how the pH level of the groundwater compares to the World Health Organization (WHO) standards and what factors could be contributing to any observed variations [7].

Additionally, the discussion focuses on the presence of heavy metals in the groundwater samples. The researchers identify the specific heavy metals detected and their concentrations, discussing their potential sources and the risks they pose to human health and the environment.

They may explore factors such as industrial activities, agricultural runoff, and natural geological processes that could be influencing the levels of heavy metals in the groundwater.

Furthermore, the discussion section may address any trends or patterns observed in the data, such as seasonal variations or spatial distribution of contaminants. The researchers may also discuss the potential impact of these findings on public health and the need for mitigation measures to protect groundwater quality in the region [8-10].

Conclusion

In the conclusion section, the researchers summarize the key

findings of the study and their implications. They reiterate the significance of assessing physicochemical parameters and heavy metals in groundwater from Hajjah Governorate, Yemen, and highlight the importance of addressing current challenges to ensure the sustainability of water resources in the region. The researchers emphasize the need for continued monitoring and management of groundwater quality, especially in light of the observed contamination by heavy metals. They may propose recommendations for future research directions, such as conducting long-term monitoring studies, investigating the sources of contamination in more detail, and implementing remediation strategies to mitigate the impacts on human health and the environment. Overall, the conclusion serves to underscore the importance of safeguarding groundwater quality in Hajjah Governorate, Yemen, and provides a call to action for stakeholders to collaborate in addressing the identified challenges and working towards sustainable water management practices for the benefit of present and future generations.

Acknowledgment

None

Conflict of Interest

None

1. Bouten CVC, Dankers PYW, Driessen AM, Pedron S, Brizard AMA (2011) Substrates for cardiovascular tissue engineering. *Adv Drug Deliv Rev* 63: 221-241.
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