ENGLISH FOR PRESENTATION
BACHELOR OF INFORMATICS
SCHOOL OF COMPUTING
TELKOM UNIVERSITY
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WRITING A JOURNAL SUMMARY

Article 1

Reference: Hakam, N., Guzman Fuentes, J. L., Nabavizadeh, B., Sudhakar, A., Li, K. D., Nicholas, C., Lui, J., Tahir P., Jones, C. P., Bent, S., & Breyer, B. N. (2024). Outcomes in randomized clinical trials testing changes in daily water intake: A systematic review. JAMA Network Open, 7(11), e2447621. https://doi.org/10.1001/jamanetworkopen.2024.24785

Annonation Bibliography

The authors conducted a systematic review of a number of randomized clinical trials (RCTs) to assess the effect of changes in daily water intake on various aspects of health. Most studies used a parallel design with varying intervention durations, ranging from several days to several years. Various participant groups and health outcomes were analyzed, including body weight, blood sugar levels, urinary tract health, migraines, and kidney stones. The results showed that increased daily water consumption was associated with greater weight loss (approximately 44%–100% compared to the control group) and fewer cases of kidney stones (approximately 15 fewer cases per 100 participants over five years). Several studies also found potential benefits for migraine prevention, blood sugar regulation, and blood pressure, although the results were not entirely consistent.

Overall, this review shows that although evidence from RCTs on the health benefits of water is still limited, the results point in a positive direction. Adequate water intake appears to be most beneficial in maintaining weight and kidney health due to its role in metabolism and bodily functions. However, the authors emphasize that the existing evidence is still insufficient to establish a definitive cause-and-effect relationship. Therefore, they suggest the need for further research with larger and more controlled designs. Given that water is a cheap, safe, and easily accessible source of hydration, the authors recommend that promoting adequate water intake be made an important part of public health strategies to prevent chronic diseases caused by dehydration.

Article 2

Reference: Ewoldt, L., Duran, A. C., Diawara, C., Batis, C., Wallace, D. D., Taillie, P., Miller, J. D., Ng, S. W., Cronk, R., & Taillie, L. S. (2024). The role of water insecurity in influencing water and sugar-sweetened beverage choices: A scoping review. PLOS Sustainability and Transformation, 3(10): e0000174. https://doi.org/10.1371/journal.pstr.0000174

Annonation Bibliography

This article provides evidence of water insecurity, which involves limited access as well as bad water quality, affecting consumers' beverage purchasing decisions, particularly the water versus sugar-sweetened beverage (SSBs) choice. By analyzing different cross-country studies and socioeconomic contexts, the researchers discovered a consistent pattern in which people with restricted access to water or who have poor quality of water opt for bottled water or sweetened beverages to replace their usual ones. These drinks are viewed as safer and more convenient, although they have a negative impact on people's health. The article points out that consumption habits are greatly influenced by water infrastructure, affordability, and public trust in water quality. The article reveals that in many low-income communities, due to structural inequalities in water access, the consumption of sugary drinks has become a more accessible choice as a mode of adaptation to these conditions that the people face.

It is determined that ensuring water security and access to clean water is the main factor in lessening the use of sweetened beverages and promoting hydration with water. Initiatives on public health which aim at reducing the intake of sweetened beverages will not result in success if water insecurity is not dealt with at its source. As such, interventions that integrate upgrading water infrastructure, public education, and behavioral change are deemed the most effective way. The author also points to the sector collaboration necessary to overcome these issues, involving environmental policymakers, health workers, and the community. The study is an in-depth exploration of the links between water insecurity, nutritional inequity, and health, and it supports the notion that fair access to clean water is a prerequisite for a healthy and eco-friendly way of living.

Article 3

Reference: Sim, M., Song, W., Choi, E. Y., Shin, D.-M., & Kim, C.-S. (2025). Chronic low water intake is associated with altered exercise-induced oxidative stress and immune cell responses: a cross-sectional study. Journal of the International Society of Sports Nutrition, *22*(1), 2551213. https://doi.org/10.1080/15502783.2025.2551213

Annonation Bibliography

The author conducted research to investigate the effects of chronic low water intake on oxidative stress and immune system response during physical activity. The study involved 57 healthy adult men who were divided into two groups based on their daily water consumption habits: a group with low water intake and a group with normal hydration levels. Participants underwent physical exercise in the laboratory, while researchers measured various physiological indicators such as plasma osmolality, oxidative stress markers, and immune cell activity. The results showed that individuals with low water consumption habits had higher baseline oxidative stress levels and a significant increase in free radical production after exercise. In addition, this group also experienced slower immune cell function recovery, indicating that fluid deficiency can inhibit post exercise immune regulation.

The authors concluded that insufficient water intake can adversely affect the body's ability to adapt to physical activity by increasing oxidative damage and reducing the efficiency of immune system recovery. Adequate hydration is crucial not only for maintaining exercise performance but also for protecting body cells from damage caused by oxidative stress. Over the long term, chronic mild dehydration can lead to cumulative effects that may impact overall health. Therefore, individuals especially athletes and physically active people should maintain consistent daily hydration, not just during exercise. This study provides new insights into the relationship between hydration, oxidative stress, and immune function, and emphasizes that adequate water intake is a key factor in maintaining physical resilience and long-term health.

Article 4

Reference: Franse, C. B., Boelens, M., Fries, L. R., Constant, F., van Grieken, A., & Raat, H. (2020). Interventions to increase the consumption of water among children: A systematic review and meta-analysis. Obesity Reviews, 21(3). https://doi.org/10.1111/obr.13015

Annonation Bibliography

This article assesses the effectiveness of various types of interventions aimed at increasing water consumption in children aged two to twelve years. Researchers reviewed 47 studies and included 24 of them for quantitative analysis. The interventions analyzed were carried out in various settings such as schools, homes, and communities, with diverse approaches ranging from health education, environmental changes, to behavioral strategies to encourage children to choose water over sugary drinks. The results of the analysis showed that children consumed an average of 29 milliliters more water per day compared to the control group. Interventions that focused specifically on changing eating behaviors had a greater effect (73 mL/day) than interventions that covered many aspects of lifestyle (15 mL/day). Differences in results were also seen based on the location of the intervention and the target group.

The authors conclude that lifestyle interventions can moderately increase children's daily water consumption, although the overall effect is still relatively small. Programs that focus directly on eating habits are more effective than approaches that cover various aspects of lifestyle. This article also highlights the importance of establishing water drinking habits from an early age, as behaviors formed in childhood tend to carry over into adulthood. In addition, the school and family environments are identified as important settings for fostering good hydration habits. Although the increase in water consumption found is relatively small, this study provides important evidence for public health policies in encouraging children to choose water over sugary drinks as a long-term obesity prevention measure. The authors also recommend that future research focus on identifying the most effective intervention components and strategies for sustaining behavioral change.