

Urinary Tract Infections

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This student will look at studies involving urinary tract infections and prevention methods for this literature review. Urinary tract infections are considered the second most common infection in the body and the most common type of healthcare-associated infection (Taylor et al., 2019). Prevention is imperative to patients' health, as urinary tract infections can lead to other systemic infections, which may cause harm to patients, require hospitalization, and drive-up health care costs (Taylor et al., 2019). The cornerstone for combatting this ongoing issue is learning from peer-reviewed studies that expand upon proactive ways to educate communities on what a urinary tract infection is and how one can be successfully prevented.

Quantitative determination of leukocyte esterase with a paper-based device

This study aims to explore cost-effective ways of detecting urinary tract infections. Urinary tract infections cost the health care system an estimated 1.6 billion annually (Ho et al., 2020). The healthcare system must find cost-effective ways to detect and combat urinary tract infections as an overall health concern. This study uses a quantitative approach to analyze data collected while using the proposed method of a paper-based analytical device to detect the presence of UTIs. The authors seek to prove that this method is cost-effective and comparable to traditional methods of UTI detection (Ho et al., 2020).

Key Points

The authors of this study are proposing the use of paper-based devices containing a coating of mixed 3-(*N*-tosyl-L-alaninyloxy)-5-phenylpyrrole (PE) and 1-diazo-2-naphthol-4-sulfonic

acid (DAS) as a recognition molecule for reaction with the analyte (LE) opposed to the use of the fast-acting twelve-panel dipstick (Ho et al., 2020). Data was collected from sixteen patients, with a total of twenty-one specimens. Among the specimens, eight were known to have UTI-presenting bacteria. Tables show that overall, the paper-based device outperformed the traditional dipstick testing and attributed to the early detection of bacteria. The P-value within this study was $p = 0.001$ in 13 non-UTI samples and non-UTI urine samples, $p = 0.003$ in comparison to the dipstick testing P-values of $p = 0.012$ in the 13 non-UTI samples and $p = 0.164$ in the non-UTI urine sample (Ho et al., 2020). This shows that the paper-based device can be considered accurate and could be used in the early detection of urinary tract infections and associated bacteria (Ho et al., 2020).

Assumptions

The authors of this article assume that the data presented will prove comparable and more cost-effective in detecting UTIs compared to traditional diagnostics. They are comparing the paper-based diagnostic testing with the traditional dipstick method and trying to prove that their testing outperforms the traditional.

Deficit/Conclusion

This student would recommend implementing the paper-based device for the early detection of urinary tract infections and associated bacteria. This study implies that the cost of urinary tract infections is substantial yearly. Facilities can reduce costs and treatment time by developing devices and adopting early detection methods. This student agrees with this assumption; the cost of urinary tract infections and their associated risks threaten patients' overall health. Treatment

can start sooner when using devices that can detect bacteria at a sensitive level, and patient outcomes and satisfaction will be at higher levels. Patient outcome/satisfaction will be at higher levels. It is implied that if early detection can be achieved, fewer people will have the associated effect of urinary tract infections, and costly, invasive treatments will be used less.

Second article title here

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Key Points

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Assumptions

Paragraph goes here discussing the assumptions of the article. Follow the MEAL paragraph formatting and use Grammarly.com.

Deficit/Conclusion

Paragraph goes here discussing the conclusion of the article. Follow the MEAL paragraph formatting and use Grammarly.com. Do you accept the authors' line of reasoning? What are the implications for this article? If nursing fails to accept this line of reasoning, what would the implications be?

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Key Points

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Assumptions

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Deficit/Conclusion

Paragraph goes here discussing the conclusion of the article. Follow the MEAL paragraph formatting and use Grammarly.com. Do you accept the authors' line of reasoning? What are the implications for this article? If nursing fails to accept this line of reasoning, what would the implications be?

Conclusion

Write a conclusion here in your overall paper. Follow the MEAL paragraph formatting and use Grammarly.com. Provide a summary/conclusion of the analysis of all three articles.

Discuss how the information can improve:

- Patient outcomes
- Nursing practice
- Evidence-based practice/Quality Improvement efforts
- Healthcare as a whole

References

Ho, M.-L., Liu, W.-F., Tseng, H.-Y., Yeh, Y.-T., Tseng, W.-T., Chou, Y.-Y., Huang, X.-R., Hsu, H.-C., Ho, L.-I., & Pan, S.-W. (2020). Quantitative determination of leukocyte esterase with a paper-based device. *RSC Advances*, *10*(45), 27042–27049. <https://doi.org/10.1039/d0ra03306e>

Taylor, C., Lynn, P., & Bartlett, J. L. (2019). *Fundamentals of nursing: the art and science of person-centered care* (9th ed.). Wolters Kluwer.

*As you can see the reference is centered and is bolded. The first line is NOT tabbed over, all other lines are, this is called hanging indentation. All references are double spaced. All sources should be listed in alphabetical order. Be sure to use the APA 7th edition and guide for your reference page.