GOJO

HAND HYGIENE TIMES

Your resource for the latest news in effective infection control program development and best practices.

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Critically Evaluating a Research Article: Practical Tips to Help Get You Started

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There's a very good chance that as an Infection Preventionist (IP), you evaluate and incorporate research into your everyday practice. Whether you are conducting a literature search on a specific topic, or reading the latest issue of American Journal of Infection Control, you are constantly determining when research should influence practice. Evaluating research is an essential part of an IP's role, but it can sometimes be a daunting task. Practicing and refining this skill is part of the journey from novice to expert IP, and helps keep the practice of infection prevention evidence-based. Here are five helpful tips for critically evaluating research articles:

1. Determine your purpose for reading the article. Is it simply to skim through it, or are you conducting a thorough analysis? Depending on your answer, you may approach it differently. Articles usually follow the same IMRAD (introduction, methods, results and discussion) format, so you don't have to read the entire article from start to finish if you're simply gauging your interest. If your goal is to conduct a thorough analysis, then you may need to read the article several times in order to process the information.

2. Identify the "research question." The author should make this very clear to you as the reader. It should be explicitly stated or incorporated into the problem statement. Either way, you should be able to articulate the research question the study is trying to answer.

3. Don't skip over the methods section! Because it can be the most tedious part of the article to read, people sometimes skip reading the methods section, but this is the most important part of the article. This section is often divided into subsections with their own headings. The most important element is the study design, which should be depicted and explained in clear terms. Inclusion and exclusion criteria should be clearly stated: How high was the response rate, how high was the rate of loss to follow-up? Was there a careful power calculation before the study started? If the number of cases is too low, there may be insufficient power and a real difference between the risk of disease in the presence or absence of a given environmental factor may not be detected.

4. Carefully review the results and brush up on p values. The results section should be a complete summary of what was discovered. This is not the place for the author to make interpretations of the data (the section to do that is the discussion section). The results section should directly address the aims of the study and be presented in a well-structured, readily understandable and consistent manner. The p value, or probability of rejecting the null hypothesis (the hypothesis of no difference), will tell you if the results of the study are statistically significant or not. A p value of less than 0.05 means that the results did not happen by chance, therefore the null hypothesis is rejected. If a p value is greater than 0.05, then the null hypothesis cannot be rejected. Researchers should publish both significant and non-significant results. Knowing what is false is just as important to science as knowing what is true.

5. Read the author's discussion and conclusions, but draw your own conclusions, too. The discussion section where the author makes interpretations. They should discuss results frankly and state what conclusions can be drawn, if the findings warrant further investigation, and the implications of the results are for science, clinical routine, patient care, and medical practice. The authors should also answer the question: did bias affect the results?

The best place to begin critically evaluating literature is by reading an article of interest. Start a journal club or share the article with a colleague and compare notes. Many journals feature a "journal club" article regularly, which is a great template for discussing an article. With practice and time, reading and critically evaluating an article will become second nature.

THAT'S a FACT!

"Many journals feature journal club articles. This is a great way to get you started with critically evaluating a research article by yourself, or to facilitate a journal club with others."

For a journal club feature from the American Journal of Infection Control, see: Larson EL, Albrecht S, O'Keefe M. Hand hygiene behavior in a pediatric emergency department and a pediatric intensive care unit: comparison of use of 2 dispenser systems. Am J Crit Care. 2005;14:304-310.

Product Feature

SMARTLINK™ CLINICIAN BASED SUPPORT

Clinician-Based Support

Although there is a structured process for Clinician-Based Support (CBS), the actual application will be customized by each facility in which it is implemented. The decision(s) as to what will be included in the site will be made by the Clinical Leader in conjunction with the assigned Clinical Application Specialist (CAS).

Details for each phase are listed below but can be modified based on each facility's customized design for the process. Items under each phase may be deferred or moved to an alternate phase based on the design selected by the facility.

An important part of our solution is to make sure your infection prevention team has the tools and support it needs to build and sustain improvement. That's why we offer GOJO SMARTLINK Clinician-Based Support.

The SMARTLINK Clinical-Based Support (CBS) program provides on-site clinical specialists to help engage and energize frontline caregivers. The team's range of services includes staff training and small-group support, observational studies to assist with root cause analysis and weekly status calls with clinical leaders.

Site Survey

1. Supports introduction of site Clinical Leader and other key staff to assigned CAS and the initiation of face to face relationship building.
2. Begin work on the Facility Profile / Cultural Survey.

Installation

1. Meet with Clinical Leader to review CBS Process.
2. Demonstrate how the Activity Monitoring System (AMS) works to the unit staff utilizing the demonstration kit.
3. Provide unit staff with education on Electronic Compliance Monitoring (ECM), Hand Hygiene, and selected products.
4. Participate in closing session and answer questions related to system and next steps.
5. Assist with demonstration and education on the dashboard.

Performance Improvement / Leadership Planning and Implementation

1. **Clinical Leader meeting:** Discuss CBS process and baseline data.
2. **Performance Improvement Team meeting:** Work with dedicated team of Front Line staff to determine barriers for Hand Hygiene Compliance, utilizing a known performance improvement strategy. Develop a performance improvement action plan, a timeline and goal for improvement.
3. **Leadership Team meeting:** Explain ECM, review baseline Hand Hygiene rate with ECM, discuss the feedback of the Performance Improvement Team, and define role of the Leadership Team in project.
4. **Unit staff education:** Review ECM and Performance Improvement Team plan with unit staff.

Summary Session

1. **Clinical Leader Meeting:** Discuss additional measures that can be done to maintain the improvement and further increase the Hand Hygiene compliance rate.
2. **Performance Improvement** Team and Leadership Team (combined) Meeting: Thank the Teams for their support throughout the project and celebrate the achievements that have been obtained as well as to illicit the team members' feedback and ongoing support. Compare and contrast Hand Hygiene rate from baseline until present and identify next steps to sustain or improve current rate.

To learn more about new SMARTLINK Hand Hygiene Solutions from GOJO,
visit **www.GOJO.com/SMARTLINK**
or contact your local GOJO representative today!

A Look Ahead

next month's issue

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