Reading, Reviewing and Critiquing Research Articles

PORTAL PATIENT ENGAGEMENT COUNCIL (PEC – PRE-CONFERENCE WORKSHOP
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This toolkit was developed in full partnership with the PORTAL Patient Engagement Council (PEC) patient stakeholders. These materials may be used to help engage patients as research partners. The PEC is no longer a funded or active group. If you would like to reach out to one of the PEC members to engage them in a future project, please email Carmit McMullen, PhD, Senior Investigator, Kaiser Permanente Center for Health Research: Carmit.McMullen@kpchr.org.
Introduction

The purpose of this session is to provide the Patient Engagement Council with information necessary to read, review and critiques research articles and become familiar with the associated language in those articles.
At the conclusion of this session, you will be able to:

1. Identify and describe the major sections in a research journal article
2. Characterize the style used in quantitative and qualitative research reports
3. Read a research article and broadly grasp its “story”
At the conclusion of this session participants will be able to:

6. Describe aspects of a research critique
8. Define associated terminology “jargon”
TYPES OF RESEARCH REPORTS

**Presentations at professional conferences**
- Oral reports
- **Poster sessions**

**Journal articles**
- Papers often subjected to [peer review](#)
- Peer reviews are often [blind](#) (reviewers are not told names of authors and vice versa.).
Content of Research Journal Articles

**IMRAD Format:**
- Title and abstract
  - Introduction
  - Method
  - Results
  - And Discussion

References
ABSTRACT

Brief description of major features of a study at the beginning of a journal article

- Old style—single paragraph, about 100 to 150 words
- New style—more detailed, with specific headings
INTRODUCTION

Description of:
- Central phenomena, concepts, or variables
- Study purpose, research questions, or hypotheses
- Review of literature
- Theoretical/conceptual framework
- Study significance, need for study
METHODS

Quantitative studies:
◦ Research design
◦ Sampling plan
◦ Methods of measuring variables and collecting data
◦ Study procedures, including procedures to protect participants
◦ Analytic methods and procedure
METHODS

**Qualitative studies (cont.):**

- Research tradition
- Sampling approach and description of study participants
- Setting and context
- Data collection approaches
- Study procedures
- Analytic strategies
RESULTS

**Findings:**
- Quantitative studies:
  - Descriptive information (e.g., description of subjects)
  - Results of statistical analyses
    - Names of **statistical tests**
    - Value of calculated statistics
  - Level of statistical significance
Findings (cont.):

- Quantitative studies (cont.):
  - Level of statistical significance—index of how probable it is that the findings are reliable
  - For example, $p < 0.05$: Probability is less than 5 in 100 that the findings are spurious (probability is 95 in 100 that the findings are “real” and replicable.).
Findings (cont.):

- Qualitative studies (cont.):
  - Findings often organized according to major themes, processes, or categories identified in the analysis
  - Almost always includes raw data—quotes directly from study participants
DISCUSSION

Interpretation of the results
Implications for practice and for further research
Study limitations
STYLE OF RESEARCH JOURNAL ARTICLES

Often difficult to glean the “story” being told, because of:

- Compactness—page constraints
- Jargon
- Objectivity, impersonality
- Statistical information

○ Last two especially prominent in quantitative research articles
TIPS ON READING RESEARCH ARTICLES

Read regularly, get used to style.
Read copied articles—underline, highlight, write notes.
Read slowly.
Read **actively**.
Look up technical terms in glossary.
Don’t be intimidated by statistics—grasp gist of story.
“Translate” articles or abstracts.
CRITIQUING RESEARCH REPORTS

- Careful and objective appraisals of the strengths and limitations of a study

- Critiques of individual studies can be done for a variety of reasons (e.g., for a student assignment, for providing feedback as a reviewer, for making decisions about whether or not to publish a manuscript, for EBP purposes)

- Vary in scope, length, and form, depending on purpose
CRITIQUING RESEARCH ARTICLES  cont’

- Can be comprehensive, appraising the substantive, methodologic, theoretical, ethical, interpretive, and stylistic aspects of both the study and the report (e.g., individuals can critique a single study to demonstrate their research skills.)

- Critiques to inform EBP focus on whether evidence is accurate, believable, and clinically relevant
Critiques can be facilitated by:

◦ Using a formal protocol or critiquing guideline—although a one-size-fits-all guideline does not typically work perfectly. The are different guidelines for quantitative and qualitative models.

◦ Reviewing a model of a good critique
QUESTIONS AND ANSWERS