Utilizing Qualitative Metasynthesis to Conduct Systematic Reviews of Primary Healthcare Research

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Introduction

- Systematic reviews of research literature have emerged as important tools in evidence-based healthcare practice.

- This presentation will discuss:
  - Importance of aggregating and synthesizing qualitative research findings for primary care practitioners
  - Introduce a variety of research synthesis approaches with a special emphasis on qualitative metasynthesis
Learning Outcomes

1. Comprehend the importance of systematic reviews of quantitative and qualitative research for evidence-based primary care practitioners

2. Differentiate among metastudy, metasynthesis, meta-ethnography, and meta-analysis as qualitative systematic review methods
Learning Outcomes

3. Identify and utilize the steps involved in conducting a qualitative metasynthesis

4. Evaluate and critique published primary care meta-study articles
Pettigrew and Roberts (2006)

- Systematic reviews are:
  - Literature reviews that adhere closely to a set of scientific methods
  - Explicitly aim to limit systematic error (bias)
    - Attempt to identify, appraise and synthesize all relevant studies (of whatever design) in order to answer a particular question (or set of questions)

(p.9)
Pettigrew and Roberts (2006)

In these reviews investigators may focus their questions on:
- effectiveness of interventions and programs
- impact of screening and diagnostic tests
- exploring risk or protective factors
- observational associations between interventions and outcomes
- prevalence of clinical problems or conditions
- subjective experiences about meanings, processes, interventions; methodological issues
- economic factors

(pp. 46-47)
Reasons to Include Primary Qualitative Research in Reviews

- Abundance of primary qualitative research studies.
- Qualitative research studies may focus on emerging areas of practice and research.
- Discovery-orientation of qualitative research may uncover patterns not previously studied in confirmatory-oriented research.
- Naturalistic designs employed in qualitative research studies may allow researchers to detect aspects of a phenomenon obscured by more controlled designs.

(Popay, 2006)
Reasons to Include Primary Qualitative Research in Reviews

- Learning from the subjective experiences of patients and healthcare providers provides new insights into:
  - Quality of life issues
  - Healthcare disparities,
  - Cultural competencies (Popay, 2006)

- Different research questions call for alternative methodologies and different methodologies can provide a greater variety of evidence (Popay, 2006)
Reasons to Include Primary Qualitative Research in Reviews

- “Qualitative research is...viewed as essential to achieving the goal of evidence-based practice: namely to use the best evidence available as a foundation for practice without methodological prejudice” (Sandelowski & Barroso, 2007, p. 4)

- Qualitative research findings are critical in “developing valid and culturally sensitive instruments and effective participant-centered interventions” (Sandelowski & Barroso, 2007, p. 5)
Types of Systematic Reviews

- Reviewers conducting these systematic reviews typically choose from the following basic approaches:
  - Narrative Review
  - Meta-Analysis
  - Studies of Studies
    - Meta-Study (Meta-Method, Meta-Theory, Meta-Ethnography, Grounded Formal Theory)
    - Research Synthesis (Qualitative Metasummary and Qualitative Metasynthesis)
Narrative Review

- A descriptive technique for synthesizing the results of primary research studies qualitatively (Pettigrew & Roberts, 2006, p. 19)
Meta-Analysis

- A statistical technique for aggregating and integrating the results of primary research studies quantitatively
Meta-Study: Compare and Contrast

- Meta-Method
  - Specifies methodological characteristics of selected reports
  - Elaborating on ways the characteristics influenced research findings

- Meta-Theory
  - Identifies major cognitive paradigms
  - Relating theory to larger social, historical, cultural, and political context
  - Reveals significant assumptions that underlie specific theories
Meta-Study

- Meta-Ethnography
  - The focus is on constructing interpretations, not analyzing the data
  - Often look for “metaphors” as categories or descriptors (e.g., Campbell et al., 2003; Noblit & Hare, 1988)
Meta-Study

- Grounded Formal Theory
  - Analyze inductively and interpret theory, methods, and research findings across qualitative studies (Glaser & Strauss, 1967; Kearney, 1998)
  - Synthesize this work to formulate new interpretations (Finfgeld, 2003; Thorne, Jensen, Kearney, Noblit, & Sandelowski, 2004).
Research Synthesis

- A technique for synthesizing the results of primary research studies both quantitatively and qualitatively (Cooper, 1998, p. 4)

- Integrating findings to reach a new theoretical or conceptual level of understanding and development

  - Integration
    - More than the sum of parts
    - Inferences derived from findings as a whole
    - New higher-order interpretations created (Thorne, Jensen, Kearney, Noblit, & Sandelowski, 2004)
Types of Research Synthesis

- **Qualitative Metasummary**
  - A quantitative oriented aggregation of qualitative findings that are themselves topical or thematic summaries or surveys of data (Sandelowski & Barroso, 2007, p. 151)

- **Qualitative Metasynthesis**
  - An interpretation of qualitative findings that are themselves interpretive syntheses of data including phenomenologies, ethnographies, grounded theories, and other integrated and coherent descriptions or explanations of phenomena, events, or cases that are the hallmarks of qualitative research (Sandelowski & Barroso, 2007, p. 151)
Reasons for Qualitative Metasynthesis

- The move toward evidence-based practice within the healthcare professions and the social sciences has been a positive impetus to align qualitative research and research synthesis efforts (Polit & Beck, 2007; Sandelowski & Barroso, 2007)
- Allows for a collective way of viewing specific research within a discipline and integrating the findings into a form that is readily accessible and understandable.
Reasons for Qualitative Metasynthesis

- Enhances the “utilization value” and “power,” thereby permitting the development of theory which can be further explored and tested.

- Sandelowski and Barroso (2007) contrast metasynthesis with metastudy by noting that metastudy “entails the interpretive comparison of study findings,” metasynthesis aims for “the integration of them” (p. 21).
Conducting a Systematic Review

- Requires a team approach
- Considerable commitment from team members
- Members need to clarify each person’s contributions
- What does each member hope to gain from participation
Reflective Questions

☐ What is the purpose of conducting the systematic review?

☐ Who is the intended audience of the findings?

☐ Who will use the products?

☐ Do the reviewers have the necessary resources to access primary research reports?
Reflective Questions

- Do reviewers have the enough time, space and expertise to conduct the systematic review?
- Who are other members of the team?
- How were team members selected?
- How will team members relate and interact with each other?
Reflective Questions

- What will be the role of the primary investigator?
- How will conflicts and/or differing points of view be resolved among the research team?

(Paterson, Thorne, Canam & Jillings, 2001)
Determining the Purpose of the Systematic Review

- Directs the review question
- Develops from reading research within the field
- Identifies questions about assumptions of the work

(Paterson, Thorne, Canam, & Jillings, 2001)
Theoretical Framework

- Significant in a systematic review
- Assists reviewers in defining relevant ideas and constructs in the review question
- Directs the sampling method
- Determines the basis for interpreting the findings
- A useful framework contributes to the definition of the phenomenon of study
Formulating a Review Question

- Determine the phenomenon of interest, or the method case
- Focus of the topic is the “what” of the study
Formulating a Review Question

- Components
  - Population, Intervention, Comparison, Outcomes/Processes/Meanings, and Context

- Primary and Secondary Questions
  - What works, How it works, Why it works
  - Effectiveness, Processes, and Context
    (Pettigrew & Roberts, 2006)
Formulating a Review Question

- May relate to a broad or narrow phenomenon
- A broad focus permits a focus on the overall phenomenon as well as related ones
- A narrow focus limits the concentration of the scope of research available to the reviewers

(Paterson, Thorne, Canam & Jillings, 2001)
Six Steps or Stages of a Qualitative Metasynthesis

- Formulating the review question
- Conducting a systematic literature search
- Screening and selecting appropriate research articles
- Analyzing and synthesizing qualitative findings
- Maintaining quality control
- Presenting findings

(Sandelowski & Barroso, 2003, 2007)
Formulating the Review Question

- **PICO:** Population, Intervention, Comparison and Outcomes or **SPICE:** Setting, Perspective, Intervention/Phenomena of Interest, Comparison, and Evaluation (Booth, 2006)

- **Metasynthesis Examples**
  - To integrate published knowledge in order to draw conclusions for practice
  - To address apparent discrepant findings by providing a new interpretation (Petticrew & Roberts, 2006)
Conducting a Systematic Literature Search

- Reviewer selects **key words** to guide the literature search.
- The parameters of **who, what, and time** establish the inclusion and exclusion criteria.
- Throughout the search the reviewer continually re-evaluates the definitions of the search terms or the time frame.
Screening and Selecting Appropriate Research Articles

- Identify studies
- Review to determine if they meet the inclusion criteria set prior to beginning the search
Evaluating Research Studies

- Several checklists exist for the purpose of evaluating qualitative research studies.
- Tool to appraise the quality of primary qualitative research studies is the Critical Appraisal Skills Programme (CASP, 2006a) 10 Questions to Help You Make Sense of Qualitative Research.
Critical Appraisal Skills Programme (2006a)

- Developed specifically for individuals new to qualitative research
- Guide the reviewer through the appraisal process
- Helps to determine rigor, credibility and relevance of qualitative research studies
Critical Appraisal Skills Programme (2006a)

- The questions focus on:
  - The research design
  - Sampling strategy
  - Data collection
  - Reflexivity which includes the relationship between the researcher and the participants
  - Ethical considerations
  - Rigor of the data analysis
  - Clear statement of the findings
  - Value of the research.

Classifying the Findings

- Typology of qualitative findings from closest to data from farthest from data
  - No finding: Not research (exclude)
  - Topical survey: Not qualitative research (qualitative metasummary)
  - Thematic survey: Exploratory qualitative research (qualitative metasummary)
  - Conceptual/thematic description: Descriptive qualitative research (qualitative metasynthesis)
  - Interpretative explanation: Explanatory qualitative research (qualitative metasynthesis)

(Sandelowski and Barroso, 2007)
Extraction of Findings

- Data extraction entailed separating in situ findings, or the findings produced within the confines of a reported study, in every report.

(Sandelowski and Barroso, 2003)
Extraction of Findings

- Data pertaining to motherhood, or the quotes, incidents, stories, and case histories researchers used to provide evidence for their findings
- Data and findings not about motherhood
- Imported findings, or findings from other studies to which researchers referred

(Sandelowski and Barroso, 2003)
Extraction of Findings

- Analytic procedures, or the coding schemes and data displays used to produce findings
- Researchers’ discussion of the meaning, implications, or significance of their findings
- Don’t extract findings not supported by data

(Sandelowski and Barroso, 2003)
Editing of Findings

- Edit findings to make them as accessible as possible to any reader
- Only minor editing is required (e.g., change phrases to complete sentences)

(Sandelowski and Barroso, 2007)
Grouping Findings

- Group findings that appear to be about the same topic
- Render Judgment:
  - Sameness
  - Difference
  - Confirmation
  - Extension
  - Refutation

(Sandelowski and Barroso, 2007)
Abstracting Findings

- Categorization
- Concise statements
- Comprehensively captures the content

(Sandelowski and Barroso, 2007)
Analyzing and Synthesizing Qualitative Findings

- Look for *themes* that emerge across the studies included in the metasynthesis
- Create a *taxonomy* (category)
- Place *related themes* under the *taxonomy* that best *describe* the *phenomenon*

Other synthesis methods
- Constant Targeted Comparison
- Imported Concepts
- Reciprocal Translation and Synthesis of In Vivo and Imported Concepts (Sandelowski & Barroso, 2007)
Analysis of Articles
<table>
<thead>
<tr>
<th>Article</th>
<th>Search Terms (According to Sandelowski/Barroso)</th>
<th>Inclusion Criteria</th>
<th>Themes (from chosen articles included in the metasynthesis)</th>
<th>Sandelowski and Barroso Article</th>
</tr>
</thead>
</table>
| Faithful, J. (1997)    | Qualitative study, women infected with HIV/AIDS, and mothers | Qualitative study (phenomenology), HIV/AIDS, mothers,                               | 1. Disclosure of the virus to the child  
2. Fears of infecting children through casual contact  
3. Impact of grief and loss on ability to raise children                                                                                                                                                                                                 | 1. Mothers struggled with whether to disclose their HIV status to their children, worried about the effects of disclosure on child and maternal welfare and the mother-child relationship, and engaged in strategies to disclose or delay or avoid disclosing their HIV status to their children  
2. Mothers had concerns over child care and/or placement, especially what would happen as their disease worsened and/or after their death  
3. Women had varying knowledge, concerns about, and interpretations of, and used various strategies to address the risk of HIV transmission to fetuses and children |
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</table>
| Ingram, D., & Hutchinson, S.A. (1999)       | Qualitative study, women infected with HIV/AIDS, and mothers | Qualitative analysis technique (Grounded theory) mothering, HIV/AIDS                | 1a. Limiting the damage caused by HIV refers to preventing to the spread of others  
1b. Teaching children from contracting the virus  
2. Preparing children for a motherless future                                                    | 1. Children were main reasons to live, fight, get off drugs, care for oneself, and avoid risky behaviors  
2. Mothers had concerns over child care and/or placement, especially what would happen as their disease worsened and/or after their death |
Maintaining Quality Control

- Provide clear descriptions and explanations for the choices made
- Use established approaches to the synthesis of primary qualitative research studies
- Use established programs (e.g., CASP’s) to appraise the quality of the primary qualitative research studies.
- Employ both electronic and manual search strategies to locate all relevant articles
Maintaining Quality Control

- Use quality control methods used in primary qualitative research studies such as:
  - Audit trail
  - Negotiated consensual validation for coming to an agreement amongst the reviewers as to the results of the synthesis
  - Peer review
- Take precautions to address publication bias
Presenting Findings

- Authors can use
  - Visual displays such as charts and tables
- Describing the steps taken in the construction of the synthesis
- Present rich descriptions of the data and the development of the conceptual model or working hypotheses drawn from the integration
Next Steps

☐ Review reviews

- Practice using the Critical Appraisal Skills Programme (CASP; 2006b) tool, 10 Questions to Help You Make Sense of Reviews

☐ Review reviews of reviews

Next Steps

☐ Conduct preliminary search of published qualitative research studies in your general area of interest.

☐ Reflect on purpose of review and intended audience

☐ Conduct self-assessment for resources, time, and skill sets

■ Tools to assist reviewers
Next Steps

- Consider a consultant.
  - Cochrane Qualitative Research Methods Group
    http://www.joannabriggs.edu.au/cqrmsg/about.html

- Recruit team.

- Begin process of focusing review question and selecting systematic review methodology.

- Begin the review!
Group Activity
Taxonomies

- Positive features of motherhood
- Negative features of motherhood
- Stigma and disclosure
- Vertical and horizontal transmission to fetus and children
- Custody, legacy, and the future
- Reproductive decision making