Meta-Ethnography, a Method for the Synthesis of Qualitative Research: A Narrative Review

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Abstract
Background: Synthesis studies are used for the retrieval, review, synthesis, analysis, and integration of the findings of original studies. The purpose of this review was to shed more light on how meta-ethnography works as a method of inductive and interpretative knowledge synthesis, and on its application and implementation in medical sciences.
Methods: This was a narrative review study and the statistical population included all scholarly publications on the synthesis of qualitative studies and meta-ethnography published from 1998 to 2022. The search in international and domestic databases led to the extraction of 118 books and articles. After reviewing the titles, abstracts, and full texts of these publications, we included 2 books and 8 articles in the review.
Results: Meta-ethnography is used for synthesizing the knowledge obtained from qualitative studies to re-conceptualize their findings. There are seven phases in the process of meta-ethnography: Getting started; Deciding on what is of initial interest; Reading the studies; Determining how the studies are related; Translating the studies to each other; Synthesizing the translations; and expressing the synthesis. The number of studies required to perform meta-ethnography has been recently suggested to be 40. Strategies for updating meta-ethnography include repeating the previous strategy and reformulating the strategy according to a new objective, a revised review question, or new inclusion criteria.
Conclusion: Noblit and Hare introduced meta-ethnography in 1988 as a qualitative research method for the synthesis of educational ethnographies. Today, it is widely used in healthcare research.
Keywords: Meta-ethnography, Qualitative research, Synthesis, Narrative review, Interpretation
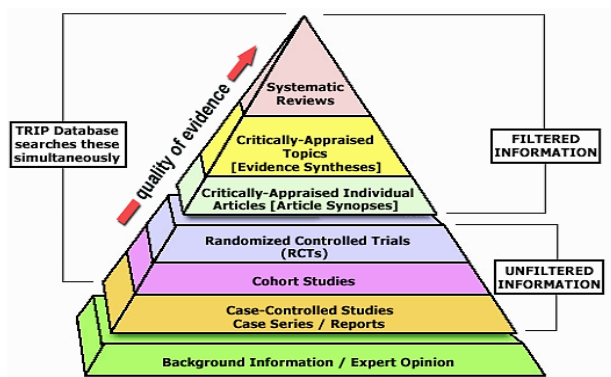
Introduction

Over the past 10 years, there have been moves to evidence-based medicine (EBM) in healthcare, referred to as patient-centered care (PCC), as well as evidence-based practice (EBP) (1). Promotion of this type of practice calls for recognition of how evidence is hierarchized in the medical literature and how certain study designs inherently suffer from potential biases and limitations. EBP begins with asking a clinical question and searching for evidence (2). In 1972, a British epidemiologist, Archie Cochrane, urged that researchers and clinicians should collaborate internationally to review all available clinical trials in a classified and systematic manner. The growth in the volume and number of specialized and technical publications accelerated the growth of synthesis studies which are used for the retrieval, review, synthesis, analysis, and integration of the results of original studies (Figure 1) (3).

The increasing number of qualitative studies on a particular topic has attracted the attention of many nurses to qualitative meta-synthesis. The concerns and issues of qualitative synthesis are completely different from those of meta-analysis, where comparable studies of equivalent quality can be aggregated to establish more important facts (4).

Synthesizing qualitative research is a new field that has turned into a significant source of evidence for health policymakers and physicians. This kind of evidence can offer detailed insight into studied phenomena (5). The two views of qualitative evidence synthesis are: aggregation synthesis, which includes gathering the findings of studies and integrating findings through further aggregation based on similarity in meaning, and interpretive synthesis which is interpretative in nature, collects the findings of studies as reported by primary researchers, and focuses on induction and interpretation by determining the relevance of studies and combining them (6). Meta-ethnography is the most common form of this type of synthesis. It is an inductive and interpretive method of knowledge synthesis according to the
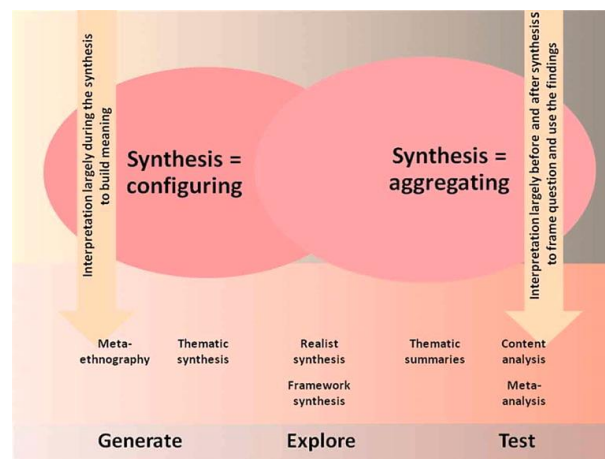
Figure 1. Hierarchy of evidence. Adopted from: https://guides.lib.uchicago.edu/c.php?g=297120&p=1983547

Figure 2. Methodological continuum of synthesis approaches and methods. Adopted from: https://www.lshtm.ac.uk/research/centres/centre-evaluation/evidence-synthesis

findings of existing case studies, which moves towards re-conceptualization. In this method, the samples are selected purposively instead of exhaustively since the goal is to explain phenomena interpretively instead of providing a solid prediction. The whole created by meta-ethnography can be significantly different from the sum of its constituent parts (5) (Figure 2).

The purpose of this review was to shed more light on how meta-ethnography works as a method of inductive and interpretative knowledge synthesis, and on its application and implementation in medical sciences. It is organized into three sections: In addition to defining what synthesis is, the first section examines the history of meta-ethnography as a method of synthesizing qualitative research. Then we will introduce the necessity of conducting meta-ethnography, especially as far as health and education are concerned, the pros and cons of meta-ethnography, sample size, and meta-ethnography review intervals. Finally, the third section deals with the different phases of meta-ethnography and the challenges raised in each phase.

Methods

The present study was a narrative review. The statistical population included all scholarly publications on the synthesis of qualitative studies and meta-ethnography published from 1998 to 2022. Eligible publications to enter the study were those published in English or Farsi with available full text. A search was made in Embase, Ovid, Google Scholar, Google, PubMed, PsycINFO, and Medline using the following keywords: meta-ethnography, qualitative research, and synthesis, separately and in combination. As with Farsi publications, SID, Google Scholar, Google, Magiran, and IranMedex were searched using the Persian equivalents of the keywords utilized for the search in English publications. The results of the search in English databases yielded 106 articles, while the results of the search in the Farsi databases led to two educational workshops on synthetic studies and

hierarchy of evidence in medical sciences, which briefly mentioned meta-ethnography and 10 articles on this topic. In the initial screening which involved checking the titles, unrelated articles were removed and 56 articles remained, which entered the abstract review stage. In this stage, after removing 33 unrelated articles, there remained 23 articles and 3 books. Of these, access to one book and 3 articles was not possible. In the next step, after receiving the original documents, 2 books and 8 related articles were identified and included in the study (7) (Figure 3)

Results

Qualitative meta-synthesis and meta-ethnography

Because qualitative methods are carried out in a natural field, they can effectively and accurately deal with real experiences (8), and this has caused researchers to turn to this type of research. To synthesize qualitative research does not mean simply summarizing the findings of a number of studies. Instead, it involves re-conceptualization of the findings first, followed by interpreting them for the generation of new insights beyond the ones obtained from each individual study. Synthesis of qualitative research may lead to the addition of breadth of understanding to the existing knowledge, generation of new theories, identification of research gaps, development of conceptual models, provision of evidence for the assessment or employment of a particular healthcare service, and facilitation of decision-making for EBP (5). Qualitative syntheses have come to be known as an important method for "accessing knowledge which may not be otherwise possible and providing ample data about the way individuals interpret and act on disease symptoms" (9).

Meta-ethnography was first introduced in 1988 by George W. Noblit and R Dwight Hare. George W. Noblit is a distinguished professor of sociology of education at the University of North Carolina, born on November 20, 1948 (10). R Dwight Hare (born on February 3, 1947;
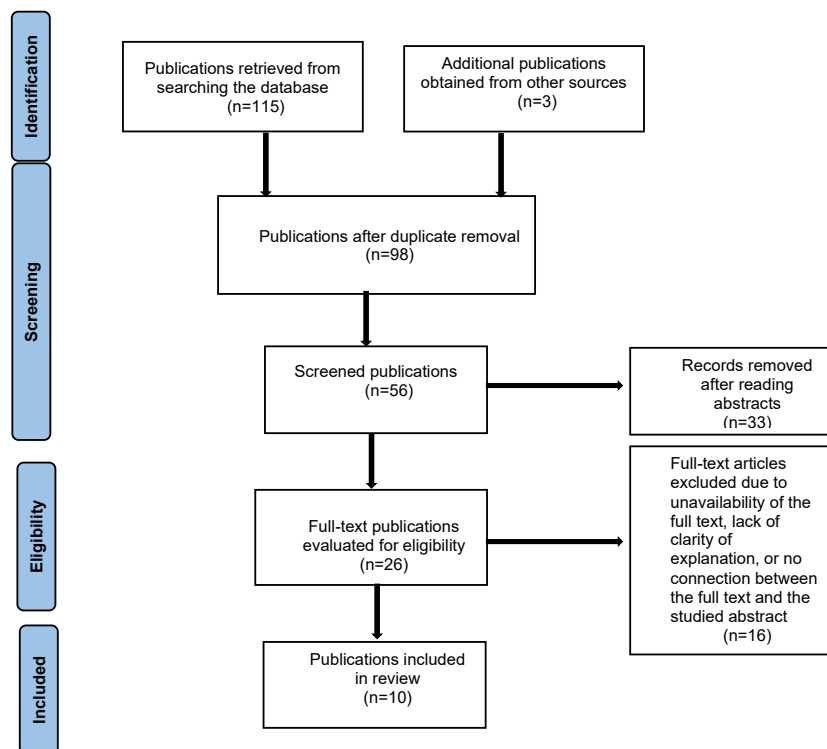
Figure 3. Narrative review search procedure based on PRISMA. Adopted from: Coupe et al (7).

died in 2013) was a professor in the College of Education at Mississippi State University. He collaborated with J. Noblit in writing a book titled *Meta-Ethnography: Synthesizing Qualitative Studies* published in 1988 (11).

Mohammed et al. believe that in qualitative studies, if the goal is synthesis, exploration, and deep interpretation of "lived lives" or "lived experiences", then meta-ethnography may be more appropriate (5). Positivists and interpretivists alike place little value on literature review (which is usually done in different studies). Positivists are interested in synthesis and accumulation of knowledge instead of further interpretation. In recent years, they have made major progress in this regard by conducting meta-analyses. With the introduction of meta-ethnography, even positivism draws attention to the analogy between meta-analysis and meta-ethnography. Meta-ethnography is an attempt to develop an inductive and interpretive synthesis of knowledge (12). Unlike other qualitative synthesis methods, in meta-ethnography, the researcher (i.e., meta-ethnographer) examines what the authors of primary research have already obtained (which includes concepts, metaphors, and themes). In the meantime, the meta-ethnographer takes into account the participants' quotes in order to create higher order themes by relying on a unique translation synthesis. Since qualitative meta-synthesis plays a pivotal role in the integration of the findings of different studies at a higher conceptual level, the different steps of doing meta-ethnography should be meticulously explained (13).

Why shall meta-ethnography be conducted?

Synthesis of qualitative research won popularity in health and education due to two reasons, namely the limitations of systematic reviews regarding the effectiveness of some interventions and researchers' attention to synthesis to interpret paradigms. Since gathering the findings of several primary qualitative studies in a systematic manner can help create a more comprehensive and generalizable theory, qualitative synthesis approaches became popular in health sciences (14). The use of this type of review has many justifications: 1- Reducing duplication of research and consolidating knowledge by highlighting the areas in which data saturation has been achieved in the studies; 2- Specifying points of disagreement between studies; 3- Specifying where future studies should focus on; 4- Better understanding of people's experiences and performance of interventions (affordability, feasibility, or acceptability); and 5- Helping to implement interventions and programs (15). A meta-ethnography can follow three lines of synthesis: synthesis of reciprocal translation (occurs when different accounts are translated into each other), refutational synthesis (makes it possible for the meta-ethnographer to interpret conflicting accounts), and synthesis of line of argument (allows creating a general interpretation of findings) (16). Today, this approach is widely used in healthcare (13). Developed originally by Noblit and Hare, meta-ethnography was used to synthesize findings of ethnographic research into education. By relying on this approach, the ethnographer can arrive at a higher level of analysis, formulate novel

research questions, and avoid duplication of research. Meta-ethnography has been adopted to study topics related to healthcare, especially to explore how patients experience illness and care (14).

Pros and cons of meta-ethnography

The benefits of conducting a meta-ethnography are: (a) obtaining data with detailed information to create a more comprehensive and generalizable theory compared with a single study, (b) identifying the gaps in knowledge, (c) identifying the causes of ineffectiveness, (d) identifying the reasons of the success or failure of interventions especially in health, (e) producing novel theories and ideas, (f) adding creativity and motivation to the progress of research, (g) expanding the generalizability of qualitative findings, and (h) adding more breadth and depth to the existing systematic reviews with regard to the effectiveness of interventions. Despite these advantages, however, synthesis in the meta-ethnography method has its own challenges such as (a) loss of the current study's grounding or association with included studies due to excessive interpretation of findings during the analysis process, (b) lack of theoretically informed synthesis (i.e., synthesis process becomes merely a combination of common findings that are re-coded or categorized), (c) not achieving in-depth analysis due to including studies with limited depth, (d) missing thought-provoking articles in the search process, (e) difficulty in critically evaluating qualitative research included in a synthesis (15), (f) absence of explanatory context when synthesizing the results of multiple studies, and g) different philosophical assumptions of the key issues of the interpretive paradigm which make synthesizing these studies difficult (14).

Sampling in meta-ethnography

Different review processes involve different sampling and selection of studies. Some meta-ethnographers choose a systematic search strategy in which articles are broadly identified, while others limit the systematic search process so that only studies generating theory and achieving concept development are included. Most published literature recommends using purposive sampling that involves a maximum diversity of samples. Regarding the number of articles to be examined, Noblit and Hare recommend 2-6 articles to be included in a meta-ethnography, but recently a maximum of 40 articles have also been proposed. France and colleagues reported that existing ethnography-based reviews used 3 to 77 research articles (17). Toye et al recommended collecting samples until achieving data saturation in the sense that the researcher can develop a theory, a process, or a model (18). This is advocated by researchers who underscore the achievement of conceptual depth, clarity, or richness of research. Recently, NVIVO 9 software has made it possible to use around 70 articles in a meta-ethnography (15).

Updating meta-ethnography

The advantage of updating meta-ethnography is to achieve a coherent model or set of findings to enhance its usefulness to the end user. Of course, there is no specific or proposed date to determine the interval between the initial study and the updated version. There are three possible methods for updating published meta-ethnographies: (a) Adding articles to and revising the existing meta-ethnography; (b) Conducting a new, independent synthesis of new articles and comparing the findings to the original meta-ethnography; and (c) Doing the analysis and synthesis from the beginning by incorporating new and old articles. There are two main methodological processes for updating meta-ethnography: (a) revising literature searches and re-selection of studies and (b) changing the way analysis and synthesis are conducted. For synthesis, the previous strategy can be repeated or a new strategy can be incorporated by modifying the review question and inclusion criteria (19).

Phases of meta-ethnography and methodological ambiguities of each phase

A meta-ethnography includes the following seven phases:

Phase one: getting started

A review usually begins by identifying an issue that needs further investigation or clarification. Often, a topic suitable for meta-ethnographic work is one that has been carefully researched and well described but still lacks clarity or consensus. A team of researchers with relevant and diverse expertise in the area of interest should be created (20). Based on research results, ethics education as well as a more realistic evaluation needs to be developed (21). It is necessary to observe ethical points at the beginning of the review studies.

Phase two: deciding what is relevant to the initial interest

This phase has four stages:

2a- Defining the focus of the synthesis: The ethnographer should decide whether or not to include all the studies in the desired field. This decision should be made so that the researcher can make sure that they have the necessary number of studies (22).

Methodological ambiguities: the process of specifying the focus of the synthesis may lead to ignoring some important articles (14).

*2b- Selecting articles to be subjected to synthesis and locating relevant studie*s: To conduct a systematic search, a comprehensive search strategy must be adopted. It is recommended to ask a librarian to decide on the content of the searches (22).

Methodological ambiguities: Since qualitative research publications may include books or theses and indexed

in electronic databases not related to medical sciences, relying merely on Medline and the Medical Subject Heading (MeSH) is problematic. Researchers have to develop their own search strategy in such databases as Social Sciences Citation Index and PsycInfo. Moreover, the descriptive titles used for some qualitative research may mislead researchers to index them inappropriately (14).

2c- Decisions to include studies (developing inclusion and exclusion criteria): Conceptually rich data that are descriptive, or rich descriptive data that provide sufficient detail for further interpretation, are suitable for meta-ethnography (22).

Methodological ambiguities: It is difficult to determine when data saturation is achieved in a synthesis. In addition, some articles lack abstracts, or even if they do, they are poorly structured, which makes it problematic to make decisions for article inclusion merely according to abstracts (14).

2d - Quality assessment of included studies: Checklists are valuable resources for efficient assessment of qualitative research. The Critical Appraisal Skills Program (CASP) checklist and the Joanna Briggs Institute Qualitative Assessment and Review Instrument (JBI-QARI) are two widely employed tools for quality assessment (22). CASP was first set up by the Oxford Regional Health Center in England in 1993 and is one of the most reliable tools for measuring the quality of all types of studies. Although the type and number of questions in this checklist are slightly different depending on the type of study, the scale is constant and the same in all qualitative studies (23).

Methodological ambiguities: There is currently no consensus on the criteria to be used and how they should be applied. Quality assessment might capture ethnographers' attention to problems related to interpreting findings that may affect synthesis results (14).

Phase three: reading the studies

Repeated reading of the presented studies and getting familiarized with key concepts and metaphors related to the process of synthesis are the main procedures in this phase. The "data" for the synthesis is the key concepts or metaphors. When the studies are read, they are organized into groups by documenting their information in a table including their context, data collection method, and participants (6,24).

Methodological ambiguities: It is difficult to access participants' perspectives or beliefs (i.e., first-order constructs) within the context of meta-ethnography, as these are obtained by the authors of the meta-ethnography from the full data set. Therefore, extracts may not reflect the essence of the participants' experiences (14).

Phase four: determining how the studies are put together

One of the goals of qualitative synthesis is to develop, and not merely describe, concepts that help to understand an experience. In this phase, it should be taken into account how key concepts of different articles are related to each other. For this purpose, common and recurring concepts should be sought throughout the studies. To this aim, a list of themes could be created. The themes should then be compared in order to see which relationships between key concepts and metaphors reflect these themes and to recognize common concepts that are recurring. The categories that are created in this way are labeled with terms that encompass all related concepts. In this list, themes from various studies are classified into related categories. This step is likely to be repeated (25).

Phase five: translating studies to each other

The most important part of meta-ethnography is the fifth phase, which includes "comparison of the concepts and metaphors of one review (article) against those of another review (article)". The process of translation involves examining key concepts within and across studies and is akin to the constant comparison method. In this step, to check the presence or absence of common concepts, Concepts from different studies are compared against each other. This clarifies the differences and similarities between metaphors and concepts and makes it possible for the researcher to organize them into conceptual categories further, leading to the development of higher (tertiary) order constructs (26).

Methodological ambiguities: Although synthesis is aimed at preserving the rich context of the data, the background information in many studies is poorly reported (probably because of journal word limits). Therefore, this type of synthesis can sometimes be difficult to achieve (14).

Phase six: synthesizing translations

According to Noblit and Hare, Phase Six involves the "transformation of the whole into something beyond the sum of its individual parts". The relationship between studies can be established by referring to the completed data table. Phase 6 can be divided into two stages: 1. Reciprocal synthesis and refutation: it includes deciding on the similarity of studies to enable a reciprocal translation synthesis which results in the generation of new concepts that offer a more complete account of the phenomenon and resolve any contradictions. Sometimes, studies may contradict each other, in which case a refutational synthesis is performed, which is aimed at discovering and explaining differences, exceptions, idiosyncrasies, and inconsistent concepts across studies. In general, in reviews, syntheses based on reciprocal translation are used more than refutational syntheses. 2. Line of argument synthesis: this type of synthesis provides a higher level of interpretive synthesis, and involves the development of new insights. Meta-ethnography may involve a transition from reciprocal translation

to an interpretation at a higher order that moves the translations along a "line of argument" synthesis (14). This is especially true for healthcare research, where the perspectives of one or more groups on a particular phenomenon (e.g., healthcare providers and patients) are often examined (16).

Methodological ambiguities: Apparently, it is generally accepted that the process of synthesis, unlike analysis in early qualitative research, "cannot be clearly written" and thus may be difficult to replicate in practice (14).

Phase seven: expressing the synthesis

While syntheses can usually be presented textually, using charts or any other visual aids in addition to the text has also been proposed. Currently, there are no accepted standards for reporting meta-ethnographic studies. To help improve client outcomes and healthcare, meta-ethnographic studies should be clearly reported. Various journals may place a requirement on a PRISMA chart. Phase Seven involves three stages: Summary of findings; Strengths, limitations, and reflections; and Recommendations and conclusions (13).

Methodological ambiguities: Simplifying complex interactions in participants' behavior is not an easy task. One way through which these results can inform policy, programs, and further research is by linking them to the existing Cochrane reviews in terms of how effective the interventions are (14).

Conclusion

Meta-ethnography is a common method of conducting interpretative synthesis in qualitative research, which was first introduced with the synthesis of educational ethnographies. It is not simply an aggregation synthesis that includes a consolidated review of literature in a specific area or a secondary analysis of primary data from a set of identified research studies. Rather, it can be an interpretation of the findings of selected studies in which the researcher, relying on a new perspective, interprets the findings of other studies and can even reach different results. In this method, synthesis does not mean the ability to transfer similar findings from one case to another, but it means reconceptualization across studies. Given the widespread application of meta-ethnography in healthcare research nowadays, this study provided an introduction to this systematic approach by describing Noblit and Hare's seven-step process used to conduct a meta-ethnography as follows: Getting started; Deciding what is of initial interest; Reading the studies; Determining how the studies are related; Translating studies to each other; Synthesizing translations; and Expressing the synthesis. Knowing this method will help researchers in the synthesis of qualitative studies to shift from aggregate to interpretive synthesis.

Authors' Contribution
Conceptualization: Shahram Yazdani, Poorandokht Afshari.
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Investigation: Poorandokht Afshari.
Methodology: Shahram Yazdani.
Project administration: Shahram Yazdani.
Resources: Poorandokht Afshari.
Supervision: Shahram Yazdani.
Validation: Shahram Yazdani, Poorandokht Afshari.
Visualization: Shahram Yazdani, Poorandokht Afshari.
Writing–original draft: Shahram Yazdani, Poorandokht Afshari.

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