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A decade of metasynthesis research in health sciences: A meta-method study

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Abstract

The overall aim of this study was to analyze the methods applied in previous metasynthesis research and to inform future researchers of epistemological and methodological issues based on this analysis. Meta-method analysis was applied to a decade of 45 published metasynthesis studies that pertain to nursing and allied health studies. The findings show that the metasynthesis research can be classified into three areas: (1) health, illness and suffering, (2) care and support, and (3) parenting, newborn and childcare. Meta ethnography dominates the research area. Metastudy, metasummary, qualitative metasynthesis, and grounded formal theory are emerging methods. The metasynthesis studies suffer from modifications without explications, use of secondary method references, missing sample and search data and differences in the type of findings and the meta-concepts depicting the findings. The worth of metasynthesis research is questioned when the core ideas of qualitative meta studies, theoretical and/or methodological development (“synthesis”) combined with the potential of going beyond and behind the studies (“meta”), is missing. Metasynthesis research requires knowledge in both the substance and the various qualitative methods, and systematic attendance to the method accompanied by the openness and the creativity of a qualitative approach. Conclusions and recommendations are presented as epistemological reflections and a guide for future metasynthesis research in health sciences.

Key words: *Metasynthesis, meta-method, meta-ethnography, metastudy, grounded formal theory, metasummary, qualitative methods*

Introduction

Metasynthesis research has evoked considerable interest for disciplinary as well as clinical development of nursing and health care since its emergence during the last decade. A number of methodologies for metasynthesis of qualitative data have been developed in connection to research projects of the experiences of chronic illness (Paterson, 2001; Paterson, Thorne, Canam & Jillings, 2001; Paterson & Thorne, 2003), HIV-positive women (Barroso & Sandelowski, 2003, 2004; Sandelowski & Barroso, 2003a;b;c;d), and women’s health (Kearney, 1998a;b; 1999, 2001a;b). Reviews show that the metasynthesis approach include various methods which aim at developing new knowledge based on critical analysis and integrative synthesis of qualitative studies (Finfgeld, 2003; Dixon-Woods, Agarwal,

Jones, Young & Sutton, 2005; Walsh & Downe, 2005). Metastudy developed by Paterson and colleagues (2001) is a tripartite research approach including meta-data analysis, meta-theory analysis and meta-method analysis. Sandelowski and Barroso (2003b) developed a metasummary method that includes effect sizes as a fruitful base for metasynthesis and, inspired by Glaser and Strauss (1967), Kearney (1998a) described the method formal grounded theory. The idea of metasynthesis is to arrive at new insights beyond the original piece of research (Paterson et al., 2001; Sandelowski, 2006), thus differing from reviews and secondary analysis (Bondas & Hall, 2006). Metastudies are supposed to advance the discipline (Zhao, 1991; Ritzer, 1992); the synthesis should be consistent, parsimonious, elegant and useful (Noblit & Hare, 1988). Previous research publications are analyzed as primary data,

and sampling criteria are decided in relation to studies instead of participants. The inclusion criteria and sample description, procedures for data handling, data analysis and interpretation, therefore, are vital validity issues. A metasynthesis study may clarify inconsistencies between materials synthesized (Noblit & Hare, 1988), it may articulate complex theories in the field (Paterson et al., 2001), or reconceptualize across studies (Doyle, 2003). However, the methods and procedures may be misunderstood (Morse, 2006), the results not in line with the method, and the re-presentation unfair and inaccurate. Several challenges in the metasynthesis research (Bondas & Hall, 2007) make it pertinent to study how metasynthesis research is done.

Knowledge cannot be synthesized from limited collections of study reports without a thorough analysis of their foundations and features (Paterson et al., 2001; Barroso & Sandelowski, 2003; Barroso et al., 2003). Developers of the different approaches question the worth of metasynthesis and matters of representation and generalization (Paterson, Canam, Joachim & Thorne, 2003; Thorne, Jensen, Kearney, Noblit & Sandelowski, 2004; Sandelowski, 2006), and researchers are increasingly debating the potentials of the method for the scientific development and evidenced-based care (Kearney, 2001b; Finfgeld, 2003; Paterson & Thorne, 2003; Walsh & Downe, 2005). This study is part of a Nordic research project "Metasynthesis of childbearing in a Western context of risk and technology" (Bondas et al., 2004; Aagaard & Hall, forthcoming) and the forth in a series of methodological contributions (Bondas & Hall, 2006; 2007; Hall, 2004). The overall aim of this study was to analyse the methods applied in previous metasynthesis research and to inform future researchers of epistemological and methodological issues based on this analysis.

Method

Meta-method analysis was chosen for this study in order to extend the review format (Cooper, 1988; Evans, 2001) and analyze meta questions. The method suggested by Zhao (1991), and further developed by Paterson and colleagues (2001) as an independent part of a tripartite metasynthesis is used to explore the methodological features; the method determines how the metasynthesis methods have been interpreted by the researchers, and explores rigor and soundness in relation to the type of findings.

A decade of metasynthesis research, from the first published study in nursing and allied health 1994 to July 2006, is analyzed to determine possible needs to develop the metasynthesis methodology and to inform decisions about metasynthesis research

projects. Meta studies in health care using the key words: metastudy, meta study, meta ethnograph*, meta-ethnography, metaethnography, metasynt*, meta-synthesis and metasummary, and in combinations with qualitative studies/research in the databases CINAHL, Medline, Blackwell Synergy, Science Direct, PsycLit, Sociofile, were searched. Ancestry searches of journals in the disciplines of nursing and health care, backtracking from citations in published sources, internet searches, citation index searches and colleague contacts were also used in the data-collection. Inclusion criteria were, research published in a refereed publication in nursing and health care, and acknowledged as metasynthesis from 1994 to June 2006. The sample consisted of 45 articles.

Findings

Metasynthesis in different research areas and forums

The number of metasynthesis studies in nursing and allied health has grown from one published study in 1994 (Jensen & Allen), none in 1995, altogether eight studies during the 1990s to 36 studies in the first six years of the 2000s making a total of 45 studies. There is a peak in 2003, when ten studies were found. The journal *Qualitative Health Research* is the first to publish, and it takes the lead in the number of metasynthesis studies (9/45 articles). The second place is taken by *Journal of Nursing Scholarship* (5/45), and the third place is shared by *Journal of Obstetrical, Gynecological and Neonatal Nursing, Research in Nursing & Health*, and *Western Journal of Nursing Research* with three articles each. The rest are published in various nursing and allied health journals. Research can be classified into three areas: health, illness and suffering (20/45), care and support (10/45), and parenting and childcare (15/45). The three areas reflect the research areas in which qualitative research in nursing and allied health has increased during the last decades thus making metasynthesis possible. Tables I (a–c) provide an overview of the characteristics of the studies in the three areas.

Metasynthesis methods in use

The studies showed a variety of methods. More than half of the studies (24/45) used meta ethnography (Noblit & Hare, 1988). This method was originally developed for ethnographic studies but was also meant for other interpretative studies. Five studies used the terminology of Noblit and Hare without reference and five studies had modified the method. In spite of a large number of studies, pilot studies of the method were found (Britten et al., 2002, Campbell et al., 2003).

Table I(a). Overview of metasynthesis studies in health, illness and suffering, 1994 to July 2006.

Researcher(s), year, country and background	Research focus	Method(s) and type of findings	Criteria, search, sample and years	Theoretical and cultural perspective
Arman and Rehnsfeldt, 2003, Sweden, doctoral student and PhD	Suffering among breast cancer patients	Hermeneutic phenomenological analysis to categories, interpretation, theory and a model	Criteria described, Cinahl, search strategy not described, 14, 1990–2000	Eriksson's suffering and health theories, nursing and caring publications in English
Barroso and Powell-Cope, 2000, USA, PhD	Living with HIV-infection	Noblit & Hare terminology, constant comparative analysis (no references) to metaphors, no relationship	Articles only, search strategy not described, 21, 1990–1995	Crossdisciplinary US studies
Barroso and Sandelowski, 2004, USA, PhD	Substance abuse in HIV-positive women	Metasummary to themes and synthesis	Part of a metasynthesis project, 74, years described elsewhere	Crossdisciplinary US studies
Campbell et al., 2003, UK, PhD (seven researchers)	Lay experiences of diabetes and diabetes care	Meta ethnography to a line of argument and a synthesis	Pilot study, criteria described, 7, years not described	Crossdisciplinary
Finfgeld, 1999, USA, PhD	Courage among persons experiencing a variety of threats to their well-being	Meta ethnography and grounded theory (Strauss & Corbin) to a process model	Criteria described, various databases, 6, years in the references	Psychology and nursing
Fredriksson and Eriksson, 2001, Sweden and Finland, doctoral student and PhD	Patients' narrative of suffering	Qualitative research synthesis (Jensen & Allen) to three syntheses to a 23, model	Reviews, methodological and discussions included, Cinahl, 1990–1997	Eriksson's suffering theory, nursing and caring
Jensen and Allen, 1994, USA, PhD	Individuals' experience of wellness and illness	Meta ethnography grouped by method, reciprocal translation to theory	Criteria described, search not described, 112, 1980–1991	International research, culture acknowledged
Kearney, 1998, USA, PhD	Women's addiction recovery	Formal grounded theory (Glaser, Strauss) to a theory	Criteria described, search not described, 10, 1980s and 1990s	Multidisciplinary studies (USA and Canada), culture acknowledged
Kearney, 2001, USA, PhD	Women's experience of domestic violence	Formal grounded theory (Glaser & Strauss, Kearney) to a theory	Criteria defined, multiple search strategies, 13, 1984–1999	Multidisciplinary studies from USA and Canada, culture acknowledged
Kearney and O'Sullivan, 2003, USA, PhD and doctoral candidate	Turning points and common pathways of health-behaviour change	Formal grounded (Glaser & Strauss, Kearney) theory to a theory	Criteria described, varied databases, 14, 1988–2000	Culture acknowledged
Kylmä, 2005, Finland, PhD	Despair and hopelessness in the context of HIV	Grounded theory (Glaser) to processes and subprocesses, categories and subcategories	A literature review and GT studies of his own, Cinahl, 5, 1999–2003	Nursing studies from Finland
Kylmä, 2006, Finland, PhD	Hope, despair and hopelessness in significant others of adult persons living with HIV	Metasynthesis (various references and practice described) to theory	GT studies of his own, Cinahl, 5, 2001–2005	Nursing studies from Finland
Morse, 1997, Canada, PhD	Responding to threats to integrity of self	Qualitative meta-analysis (Jensen & Allen; Schreiber Crooks & Stern; Estabrooks, Field & Morse) to a five-stage theory	GT studies of her own or her students, and supplemental studies, search described, 9, years not described	Culture and discipline not discussed

Table I(a). (Continued)

Researcher(s), year, country and background	Research focus	Method(s) and type of findings	Criteria, search, sample and years	Theoretical and cultural perspective
Paterson, 2001, Canada, PhD	The shifting perspectives of chronic illness	Metastudy (Paterson et al.) to a theoretical model	Part of a metasynthesis project, 292, 1980–1996	Multicultural nursing, allied health and social science
Paterson, Canam, Joachim and Thorne, 2003, Canada, PhD	Fatigue in chronic illness	Metastudy (Paterson et al.) to discussion of assumptions	Part of a metasynthesis project, 35, 1980–2001	Multicultural nursing, allied health and social science
Paterson, Thorne and Dewis, 1998, Canada, PhD	Adaptation and coping in diabetes	Meta ethnography to a predominant metaphor	Criteria and various search strategies described, 38, 1980–1996	Multicultural nursing, allied health and social science
Råholm, Lindholm and Eriksson, 2002, Finland, doctoral candidate and PhD	The spiritual dimension reflected through the horizon of suffering	Various method references and interpretation (Ricoeur) to synopsis, themes, suffering and subthemes, synthesised interpretation and model	18, 1989–2000	Eriksson's health theories, English and Scandinavian studies
Sandelowski and Barroso, 2003, USA, PhD	HIV-positive women and motherhood	Metasummary to effect sizes, a metasyntheses and model	Part of a metasynthesis project, 56, 1991–2002	Cross-disciplinary US studies
Sandelowski, Lambe and Barroso, 2004, USA, PhD and doctoral candidate	Stigma in HIV-positive women	Metasummary to connections between recurring themes and a synthesis	Part of a metasynthesis project, 93, 1991–2002	Crossdisciplinary US studies
Thorne et al., 2002, Canada, PhD (six researchers)	Chronic illness	Metastudy (Paterson et al.) to insights on method and theory	Criteria and search strategies described, 292, 1980–1996	Multicultural nursing, allied health and social science

Another method, 'qualitative research synthesis' (Jensen & Allen, 1994, 1996) in combination with Noblit and Hare (1988), was used in three papers (Fredriksson, 2003; Fredriksson & Eriksson, 2001; Meadows-Oliver, 2003). Metasummary and qualitative metasynthesis developed by Sandelowski and Barroso and the tripartite metastudy developed by Paterson and colleagues are referred to in some studies but used completely only in the developers' own studies. Grounded formal theory or grounded theory is used by Kearney and Kylvä in their studies. Interpretative approaches in combination with references to various metasynthesis methods are applied referring to Gadamer (Kärkkäinen, Bondas & Eriksson, 2005) and Ricoeur (Råholm, Lindholm & Eriksson, 2002). Content analysis (McNaughton, 2000) and concept synthesis (Russell, Bunting & Gregory, 1997; Finfgeld-Connett, 2005) are seen in connection with metasynthesis. Reviews including quantitative studies also were called meta-synthesis (Lefler & Bondy, 2004).

The methodology was in some studies explained in detail, sometimes with illustrating descriptions and figures (Beck, 2002a; Nelson, 2002). Some studies provided little information of the procedure, some were detailed (Tables I (a–c)). There were,

however, examples of method slurring (cf. Baker, Wuest & Stern, 1992), such as unclear descriptions or modifications without explications based on mixed methods, and differences in the method language and the study details (Tables I a–c). Attree's (2005) study claimed to be a metasynthesis according to Noblit and Hare terminology in the title but used 'review' all through the study. Burke, Kaufman, Costello, Wisikin and Harrison (1998) used the term "qualitative meta-analysis", mentioned Noblit and Hare and referred to secondary analysis (Thorne, 1994) and Morse and Johnson's (1991) study, a synthesis of grounded theory studies.

Factors pertinent in sampling decisions

Inclusion and exclusion criteria as well as the sample size and publication years varied among the studies (Tables I a–c). These decisions are important in a metasynthesis for understanding and judging the validity of the study. The inclusion criteria are usually the study's relevance for the topic area. The focus may be researcher-constructed to form a cluster of studies within a research area or a recurring, albeit not deliberately sought after topic,

Table I(b). Overview of metasynthesis studies in care and support, 1994 to July 2006.

Researcher(s), year, country and background	Research focus	Method(s) and type of findings	Criteria, search, sample and years	Theoretical and cultural perspective
Beck, 2001, USA, PhD	Caring in nursing education	Meta ethnography to reciprocal connections to a model	Criteria described, Cinahl, 14, 1990–1997	Multicultural
Britten et al., 2002, UK, PhD (six researchers)	Patients’ medicine taking and communication with health professionals	Meta ethnography, a line of argument and a synthesis, interpretations for hypotheses	Pilot study, 4, arbitrarily chosen, years not described	Cross-disciplinary UK studies, culture acknowledged
Carroll, 2004, USA, doctoral candidate	Nonvocal ventilated patients’ perceptions of being understood	Meta ethnography and metastudy to two themes and subcategories, reciprocal relationship	Criteria and search strategies described, 12, 1982–2000	Peplau’s theory of interpersonal relations, cross-disciplinary nursing, medicine and sociology
Coffman, 2004, USA, doctoral candidate	Cultural caring in nursing practice	Meta ethnography, metaphors to categories and overall themes, relationship not discussed.	Criteria described, various databases, 13, 1990–2001	Leininger’s theory stated but not used, cross-disciplinary starting-point but US, UK and Canada studies in nursing science used
Fingfeld-Connett, 2005, USA, PhD	Social support	Template Verification and Expansion model and Walker-Avant’s concept analysis to a process model	Criteria and search strategies described, 44, 1987–2003	English studies
Fredriksson, 1999, Sweden, doctoral candidate	Presence, touch and listening in a caring conversation	Qualitative research synthesis (Jensen & Allen) to a model	Includes reviews and clinical discussions, Cinahl, 28, 1989–1997	Nursing and caring
Kehoe, 2006, USA, doctoral candidate	Hospice nurses	Meta ethnography modified to a reciprocal relationship and metaphors	Criteria described, search not explained, 5, years not mentioned	US studies
Kärkkäinen, Bondas and Eriksson, 2005, Finland, doctoral candidate, PhD	Documentation of individual patient care	Metasynthesis (reference to Sandelowski & Barroso) and interpretation (Gadamer)	Criteria and literature search described, 14, 1996–2003	Eriksson’s theory of caring, English and Nordic research
Russell, Bunting and Gregory, 1997, USA and Canada, PhD	Protective care-receiving	Concept synthesis (modified Noblit & Hare; Walker & Avant) to descriptive narratives	Studies of their own, 3, 1992–1994 in a table	Orem’s self care theory, US and Canada studies
Sherwood, 1997, USA, PhD	Caring	Meta-synthesis (references: Noblit & Hare; Estabrooks, Field & Morse, Jensen & Allen) to an operational model	Various criteria and literature search described, 16, 1975–1993	Caring and culture acknowledged

found in the course of another study (Barroso & Sandelowski, 2004). The focus may be within a theoretical perspective (Råholm et al., 2002; Arman & Rehnsfeldt, 2003). An example is Arman and Rehnsfeldt (2003), who within a theory of suffering interpreted findings of studies on women’s experiences of breast cancer. Another inclusion criteria is quality appraisal, usually restrictions to peer-reviewed studies or a validity appraisal (Paterson et al., 2001; Sandelowski & Barroso, 2002a;b; 2003a). The inclusion criteria, however, do not always match the focus of the study. Råholm and

colleagues (2002), e.g. aimed at synthesizing studies of spirituality reflected through suffering theory but only set the criteria; the analysis was not pulled through.

The identification process of appropriate publications was not always described (Tables I a–c). Most studies were based on retrievals from CINAHL and Medline. Infrequently used were the data bases PsychINFO, ERIC, Dissertation Abstracts online and Sociological Abstracts, Sociofile and PsycLit (Tables I a–c). There seemed to be an implicit assumption that only refereed literature was suitable

Table I(c). Overview of metasynthesis studies in parenting, newborn and child care, January 1994–July 2006.

Researcher(s), year, country and back-ground	Research focus	Method(s) and type of findings	Criteria, search, sample and years	Theoretical and cultural perspective
Attree, 2005, UK, PhD	Parenting support in the context of poverty	Meta ethnography, relationship claimed as “line-of–argument” but not discussed	Part of a review, 12, 1987–2005 (1985 in the table)	Only UK studies
Beck, 2002a, USA, PhD	Mothering multiples	Meta ethnography to reciprocal themes to a unified description	Criteria not described, various databases, 6, 1980–1999	Multicultural cross-disciplinary
Beck, 2002b, USA, PhD	Living with postpartum-depression	Meta ethnography to four perspectives and a theoretical model, relationship not described	Criteria described, various search strategies and databases, 18, 1960s–1990s	Cross-disciplinary English studies, culture acknowledged
Burke et al., 1998, Canada, PhD (five researchers)	Stressors in families with a child with a chronic condition	“Qualitative meta-analysis methods” (various references), matrices in tables compared to a theoretical model	Criteria described, Medline and Cinahl, 17 (counted in the table), 1990–1994	Burke stressors and task framework, culture not mentioned
Clemmens, 2003, USA, PhD	Adolescent motherhood	Meta ethnography to metaphors and reciprocal translations	Criteria described, 18	
Coffey, 2006, USA, doctoral candidate	Parenting a child with chronic illness	Meta ethnography, metaphors to themes, reciprocal translations	Criteria described, various databases, 11, 1989–2000	Nursing science from USA, Japan, Canada and Germany
Goodman, 2005, USA, PhD	Fatherhood in the early months after the birth of an infant	Meta ethnography to phases and factors, relationships not discussed	Criteria described, various databases, 10, 1990–2001	All but one in nursing science from Australia, Canada, Denmark and USA
Kennedy, Rousseau and Low, 2003, USA, PhD	Midwifery care and process	Meta ethnography to a model, relationship not discussed	Studies which they had been involved in themselves, 6, 1995–2002 in a table	US studies
McNaughton, 2000, USA, doctoral candidate	Home-visiting practice of public health nurses to maternal-child clients	Content analysis (Miles & Huberman) to a theoretical model	Criteria described, various search strategies, 14, 1991–1999	Peplau and Cox, English studies
Meadows-Oliver, 2003, USA, doctoral candidate	Homeless women with children living in shelters	Meta ethnography to descriptive themes and reciprocal translation but not discussed	Criteria described, search not explained, 18, 1990–99 in tables	English studies
Nelson, 2002, USA, doctoral candidate	Mothering other than normal children	Meta ethnography to themes and to steps, reciprocal translations	Criteria described search 12, 1991–1999	Cross-disciplinary
Nelson, 2003, USA, PhD	Transition to motherhood	Meta ethnography to social processes, thematic categories and underlying themes, reciprocal translation	Criteria described, various databases, 9, 1986–1999 in the table	Transition theory, cross-disciplinary attempt but most are nursing studies from USA and Australian studies
Nelson, 2006, USA, PhD	Breastfeeding	Meta ethnography to an essential structure and underlying themes and subthemes	Criteria described, various databases, 15, 1990–2003	English studies in a table
Sandelowski and Barroso, 2005, USA, PhD	Expectant parents receiving positive prenatal diagnosis	Metasummary: Effect sizes and metasynthesis: content analysis, Morgan, constant comparison, Strauss and Corbin, meta-ethnography, Noblit and Hare. Topical and thematic focus	Criteria described search explained, various databases, 17, 1984–2001	Cross-disciplinary US studies
Schwartz, 2005, USA, PhD	Parenting preterm infants	Meta ethnography to metaphors or themes, reciprocal translations	Criteria described, various databases, 10, 1990–2003	Discipline and culture not discussed

but argumentation was sparse. Searches that include only computerized databases might exclude valuable studies, and the research reports retrieved by these databases will thus be a biased sample (Conn et al., 2003a; Sandelowski & Barroso, 2002a; b) because missing non-English reports may provide different findings (Conn et al., 2003b). Peer review procedures were not always applied, and acknowledgment of librarians' involvement was rare. Six studies did not describe their search procedures, and others did not detail their searches. Some studies only used literature of their own (Kennedy, Rousseau & Low, 2003; McCormick, Rodney & Varcoe, 2003; Kylmä, 2005; 2006), and they resembled secondary analyses (Thorne, 1994; Heaton, 2004). Few studies included books, chapters, dissertations, or theses. Most of the studies included only empirical research based on primary data, according to the aims of metasynthesis research. Exceptions were Fredriksson's (1999) and Fredriksson and Eriksson's (2001) studies, which added reviews and clinical discussions. Råholm and colleagues (2002) included concept development and literature reviews, and Finfgeld-Connett (2005) accepted linguistic analysis studies. The nature of the metasynthesis then changed. Concept development studies, linguistic analysis and literature reviews are different in relation to the qualitative studies that captures the experienced inside perspective. Eventually, inclusion of other than qualitative studies creates difficulties in the synthesis process and forms a validity problem. Another example of extending a metasynthesis is when comparing themes to findings from quantitative studies (Sandelowski, Lambe & Barroso, 2004). There is confusion between what is review and what is metasynthesis (cf. Noblit & Hare, 1988; Bondas & Hall, 2006); both are used as if they were interchangeable (Arman & Rehnsfeldt, 2002; Lefler & Bondy, 2004; Attree, 2005).

Some samples seem to be convenience samples with little information on its type; however, most studies had information on the sample size. Some studies with small samples (Russell et al., 1997; Kennedy et al., 2003; Kylmä, 2005; Kylmä, 2006) used their own research in spite that a data base search was described that did not reveal any other comparable studies (Kylmä, 2005; 2006). Kearney (2001b) argues that the greater the number of substantive studies to work with, the higher the level of formal theory that can be achieved and the more saturated and transferable will be the product of analysis. However, large samples may retain deep analysis in bringing up new themes. Sandelowski, Docherty and Emden (1997) point at the wealth of information contained in each study and they suggest that more than 10 studies in a metasynthesis

will impede deep analysis and threaten the interpretive validity of findings. Yet, there is a hidden ideal of retrieving all of the relevant studies in a field (Barroso et al., 2003), even if metasynthesis as a qualitative approach ideally ought to entail purposeful sampling or otherwise exemplary information. Therefore, there has to be clearly defined purposeful sampling strategy in order to set tight boundaries for the synthesis. This is however not always occurring in the studies. Samples range from three (Russell et al., 1997) to 292 studies (Paterson et al., 2001). The majority included nine to 18 studies but it was seldom clear what type of sample the size represented. Few studies reported information on the total samples included in the primary studies.

The inclusion criteria of the years for publication vary in the studies and are seldom outlined, and in some studies even seem to be a haphazard solution. A persistent attitude, which seems implicitly to become handed over from the quantitative meta-analysis, is to disregard older research. The years of the sample are usually mentioned or seen in the tables but the arguments are missing. However, there are some fruitful examples when research is connected with a methodological research project. For example, Paterson and colleagues (2001) that try to include a total sample of research within the years 1980 and 2001 and Sandelowski and Barroso (2003c,d) in their studies on HIV-positive women starting from 1984 when the first qualitative study on the subject was published. Another argument is the year when a database became available online, however, this entrance year seems to vary in the studies. One study includes an argument related to a change from manual to electronic documentation (Kärkkäinen et al., 2005).

Analysis and types of findings

The findings are presented in text, tables and figures which is not surprising in the research area. The basis for the analysis and subsequent findings is not always clear. It is seldom discussed what parts of the article is used as data but it seem to be narrowed to the findings. This is very little discussed except in the studies that contain methodological development, such as the studies of Paterson and colleagues and Sandelowski and colleagues in their numerous publications.

The question of alternative representations, such as fictionalized stories, poetry, visual art, performances and plays in metasynthesis research is raised by Annells (2005). Metasynthesis studies that attempt to include this type of qualitative findings have not been found, although Noblit and Hare as early as in 1988 encouraged their meta ethnography to be

presented in other formats, and not only texts. An even more serious question of representation is the distance from the participant and the lived experience. Metasyntheses are interpretations at least three times removed from the target experiences, placing the entire project in a meta-jeopardy (Sandelowski, 2006). The critical/discursive orientation including alternative readings is needed beside the empirical/analytical studies. This is seen in a couple of studies in connection with methodological development; an example is a meta-theory study of fatigue in chronic illness (Paterson et al., 2003).

We found incomplete analysis and even a lack of synthesis or the opposite, an over-theorization where the findings seem to rely on the theoretical perspectives. There were studies including interpretations that were not data based or it was not possible to see where the categories or themes had been created in the first place. Likewise, discussions of the worth of the work in relation to the specific issue were uncommon. Tabulation was not always accompanied by a narrative (cf. Evans, 2001) or tables were displayed without analysis or even descriptions in text.

Even though there was evidence of methods named, especially Noblit and Hare's meta ethnography, the method was not always appropriately used or it was modified without notice in a way that the core idea of the method is not recognized, e.g. the meaning of metaphors, and translation of relationships between the studies. We also found confusion in the use of concepts and their applications, for example "themes", "categories", "thematic categories", "metaphors", "perspectives", "phases and factors", "processes and subprocesses", "clusters", "comparisons" and "narratives". Each study seemed to have its own concepts to describe their findings and they were not always linked to the claimed method (cf. Tables Ia–c). The meta concepts of methodologies thus need further research attention. Many of the metasyntheses aggregate the findings into metasummaries rather than translating the studies into each other. It is unclear what the primary data are, where the interpretations began and how the studies are related. There are few comments on the actual differences in the findings of the studies. The metasynthesis thus reduces the findings and the differences in the cultural and contextual data collection in the primary studies.

Discussing relationships between the findings of the primary studies does not appear to any greater extent, although the methodology of Noblit and Hare (1988) is referred to. The relationship was usually mentioned in a line and it is not clear on what basis the decision was made. In the study of Kennedy and colleagues (2003), the question of

relationship was not discussed and seemed misunderstood. Likewise, in Beck (2002b, p. 457), Noblit and Hare's methodological term "reciprocal translation" was used "since the studies were about similar things". However, reciprocal translation is not only a question of similar things but also how things are intertwined (Noblit & Hare, 1988). A "model" terminology is seen in some metasynthesis and used to arrive at a theoretical development. Examples of this are "three different syntheses summed up in a model" (Fredriksson, 1999), "theoretical model" (McNaughton, 2000; Kearney & O'Sullivan, 2003), "model" (Kennedy et al., 2003) and "therapeutic model" (Sherwood, 1997).

The variety of experiences require the attention of the metasynthesist to maintain the 'thick description' (Geertz, 1973) and thus attain to the significance of the qualitative studies. Only a few of the studies used citations from the primary studies. Sensitivity to the language and theoretical origins of the contributing works may provide findings that are more complete and improve the clinical usefulness (Kearney, 2001b). The studies of Britten and colleagues (2003), Campbell and colleagues (2003), Paterson and colleagues (2001) and Sandelowski and Barroso (2003c;d, 2005) in which a synthesis and relationships between the studies are analyzed and outlined, provide audit trails and thorough discussions. Further research is mentioned only in a few studies and then in general terms. New research questions are seldom suggested in the studies though this is a hidden potential in a metasynthesis.

Disciplinary questions and theoretical perspectives

"Push the level of theory" is a wording that contains the message of metastudies (Schreiber et al., 1989, p. 315). The theory is explicated by providing concepts, patterns and results in an explication of the existing knowledge (Schreiber et al., 1989). There is a possibility to generating new theory on the basis of previous research. In order for science to have an impact in improving practice, knowledge must be structured and have a clear perspective (Kirkevold, 1997). The importance of the question of disciplinary development in a meta-study is emphasized by many of the developers of meta-study approaches (Noblit & Hare, 1988; Sandelowski & Barroso, 2003a;b; Paterson et al., 2001; Thorne, Joachim, Paterson & Canam, 2002). However, meta researchers as all researchers run a risk of finding what they think they see rather than really understanding what is there, and either seeing only through an imposed theoretical lens and/or a lens constructed by the researcher's experiences.

The disciplinary orientation of authors is not easy to discern, and thus the same problem continues in metasynthesis research, as in the primary studies (cf. Thorne et al., 2002). Sometimes the discipline may be guessed by the journal where the study is published, or the affiliation of the author. One example is the study by Meadows-Oliver (2003) where nursing is implicitly derived from the note on the organizational affiliation of the author, the references and language in the report.

There is considerable variation regarding the way the authors understand theoretical concerns. Depending on method, discipline, and personal preference, some researchers explicitly locate their study; others provide clues to the theoretical location but little information on how the theory was integrated (cf. Thorne et al., 2002). Specific theories as starting points are Eriksson's suffering theory (Fredriksson, 1999; Fredriksson & Eriksson, 2001), transition theory (Nelson, 2003), Leininger's transcultural nursing theory (Coffman, 2004), and Peplau's nursing theory (McNaughton, 2000). Few researchers report on the research of scientists from a range of disciplines, and most focus on the work that derives from their own discipline. The sampling decision is for example stated as cross-disciplinary, but the study includes mostly nursing studies, as in Coffman's study (2004). It is possible in a metastudy to understand theoretical differences instead of fighting against them, and often it is a question of a historical development (Paterson et al., 2001). Often the meta-studies lack an explicit theoretical perspective (Tables I a–c). Thus, the knowledge development may be impeded and the ultimate purpose of the metasynthesis will fail. This can be compared to the role of theory in qualitative research in primary substantial areas, such as women's experiences of being HIV-positive mothers where Sandelowski and Barroso (2003d) found that none of the studies were explicitly located in a theory of motherhood. In Goodman's (2005) study of early fatherhood, the terms "role" and "involvement" emerged in the synthesis without explication and without evidence of its occurrence in the included studies. However, an implicit perspective is evident in the language of the report.

The background of the researcher(s)

An open scientific attitude and competence usually require years of experience and reflection in research while the researcher who works alone, especially as a novice, often lacks these qualities (Thorne et al., 2004). Most studies were done by PhD candidates or senior researchers as single author (Tables Ia–c),

few were done by research teams that included methods specialists or librarians.

In research from an insider perspective, user involvement could also be considered but it is not seen in any of the studies. There is a lack of multicultural studies, although our multicultural society encourages this type of research. There are mainly US researchers, a few are Canadian, British or Nordic researchers. There is evidence of smaller research cooperation but international teams that would enable transcultural perspectives are not found. There are examples of a purpose linked to representation across geographic and socio-cultural contexts, but eventually only North American studies are included in the sample. However, the cultural issue is acknowledged and the lack of multicultural representation is apologized for in some studies.

Discussion

The data based and manual search produced metasynthesis in nursing and allied health including a total sample of 45 published studies between 1994 and 2006. The decision to extend the limits of the review and to choose the meta-method was connected to our own metasynthesis project. The concern in meta-method analysis is to identify how the methods applied to an area of study shape the understandings of it. We wanted to take a closer look at the methods and the decisions that were made to get the best possible starting-points for our own research endeavour and for others who contemplate on the choice of this research approach. We have tried to be as open as possible, and make use of our multicultural and different scientific (nursing and caring sciences, pedagogy, health care administration) and professional backgrounds (nursing, health promotion and prevention, nursing leadership and education). We share the same mother tongue (Swedish) although we have a background in two different countries (Finland/Sweden) and we both work in new countries (Sweden/Denmark), and are well acquainted with another language and culture (Finnish and Danish). One of us is rooted in a cultural minority and our cultural consciousness is further widened by doing research in a foreign language, English.

A growing number of studies have emerged as metasynthesis during the last decade and acceleration is evident in recent years. The arguments for doing a metasynthesis seem to be the lack of previous meta studies in the research area and not a disciplinary crisis or sudden occurrences of fundamental shifts in the conception of subject matters (Zhao, 1991; Ritzer, 1992). Are we in a development phase

of qualitative studies, where the next step automatically is more metastudies? The development resembles the early years of qualitative research when there were arguments relating qualitative methods to quantitative methods, now there are arguments for a metastudy against other types of research instead of the substantial arguments, lacking knowledge and understanding. Meta is a prefix meaning “among, along with, after, beyond, behind and often denoting change” (Mish, 1989, p. 900). Thus, the term “meta” in metasynthesis implies development of the meaning beyond the original piece of research and denoting change as an integral part. This integration and change is not always developed in the studies that we have analyzed. None of the studies applying the Noblit and Hare meta-ethnography described a refutational relationship, and few studies found a line of argument relationship. This fact evokes thoughts on the state of qualitative research but the more probable explanation is an analysis that could have been more complete. Most studies paid little attention to the comparability and differences in the findings. A synthesis may hit a sidetrack, land in a *circulos vitiosus*, or come to a dead end. We argue for reflexivity and critical appraisal including discussion of alternatives and choices, ontological and epistemological issues, and disciplinary development. Implications for practice and further research grounded in the data need more attention. The methods of Paterson and colleagues, and Sandelowski and Barroso, which include these questions have been developed in recent years but are not yet in wider use. The existence of unexamined metatheoretical commitments and remaining unaware of their origins may amount to an abdication of intellectual responsibility which may result in poor research practices (cf. Johnson & Daberley, 2003). We argue that metasynthesis studies run the risk of becoming a superficial trend without engaging in the ontological and epistemological questions; they run the risk of remaining a secondary round of descriptive studies. Disciplinary development is not discussed in every study, although it is one of the primary reasons to perform a metastudy (Noblit & Hare, 1988; Paterson et al., 2001). Thorne and colleagues (2002) found in their metastudy of chronic illness that there were certain prototypical conceptualizations that remained unchallenged over time, and they seemed to continue in metasynthesis. There is an apparent lack of theoretical discussion and integration to the previous body of knowledge. Exceptions belong mostly to the methodological development studies of researchers such as Kearney, Paterson and colleagues, and Sandelowski and Barroso. There seems to be a tradition of looking at the previous research through

a narrow lens. Theoretical and philosophical issues would provide depth to the research and allow alternative theories to be developed (Noblit & Hare, 1988). An unanticipated understanding may develop that could open up and develop the discourse. Documentation of the analysis and synthesis process used is not always clear; this would enhance the validity of the meta-study and be helpful in methodological development.

Finally, there seem to be insecurity about the sampling of the metasynthesis. Many reports offered little information about sampling strategies or significance of the sampling. There were strivings towards an ideal of a total sample as well as convenient or purposeful samples. The type of sample is seldom mentioned and would be expected in the description of the sampling criteria. This is an epistemological question needing further attention in the development of the methods (cf. Bondas & Hall, 2006; 2007).

Conclusions and recommendations

Based on the analysis of the metasynthesis studies over the last decade we present the following conclusions and recommendations for furthering the methodology of metasynthesis.

The three areas of metasynthesis research that we found were health, illness and suffering, care and support, and finally parenting, newborn and child care. The areas illuminate the substance of qualitative research in health science, and direct future researchers to new research questions but also in taking a step further on the basis of findings in the current metasynthesis studies. In general, and in spite of our critical remarks, this decade of metasynthesis research shows a maturing methodology, and promising new methods for health sciences research and evidence based health care.

There is a repertoire of metasynthesis methods to draw on. We encourage the consideration of the whole repertoire of metasynthesis methods depending on the aims of the study and the available previous studies. Not all methods are yet in common use although the research in nursing and health care based on metasynthesis of qualitative studies started in the 1990s.

There are considerable pitfalls when doing metasynthesis research. We encourage reflective consciousness and knowledge of the pitfalls that we have pointed at in this study; the theoretical perspective, the literature retrieval process, the inclusion and exclusion criteria, an audit trail of the procedures and choices, and most of all a clear aim of the study. More comprehensive searches based on

explicated criteria are needed. We discourage un-systematic meta research with selective samples that have not been explicated and relying on secondary already implicitly modified references, which may have the consequence that in some years future researchers, clinicians and policy makers will not include all qualitative meta research from the first decades for reasons of inadequacies in reporting or methodological mistakes.

There is no need to continue the qualitative-quantitative gap in meta research when it is a matter of “ministering to the patients” (Bondas, 2003, p. 249); both meta-analytic and metasynthetic methods need to be developed and applied within their own premises.

The metasynthesis should reveal a critical attitude of the current state of research, interpretations of strength and weakness in different contributions, looking for alternative explanations to the paradoxes and contradictions, comparability of theories and development of alternative theoretical structures in which knowledge may be understood. Metasynthesis creates the possibility of articulating theories that account for contradictions and complexities within the field.

We argue further that the questioning of published meta research needs to be pursued and the synthesis, both the method and the findings, need to be critiqued. “Meta” means going behind and not along. Based on our analysis of the published meta research in nursing and health care, we claim that there are phenomena that continue on the same level as the primary studies and thus fail the aim for meta research, a synthesis, which warrants attention in order to make valid and meaningful contributions to health care as well as the disciplines in question. We agree with the eminent methodological developers (Thorne et al., 2004) that there are problems but they could be prevented. We propose networking models for researchers, practitioners, citizens and politicians to be developed both in matters of research and evidence-based care, and developing health care policy. There is the possibility to reach a new level of broad and deep understanding, fruitful dialogues, and new collaborative research projects from the networking experiences. The problems of cross-disciplinary cooperation in human sciences lie in ontological and epistemological differences, which are unconscious or include an unresolved discussion remaining at an ontical and methodological level. There is a need to continue the discussion and continue meta research and the reflective study of theories and methodologies into the health disciplines.

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