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Using grounded theory to research parent participation

Imelda Coyne PhD, BSc(Hons), Dip N, RSCN, RGN, RNT

Lecturer in Children's Nursing

School of Nursing, Faculty of Science and Health, Dublin City University

Sarah Cowley PhD

Professor of Community Practice Development

King's College London, School of Nursing and Midwifery

Abstract There are many interpretations and applications of the grounded theory method which have contributed to different understandings of grounded theory and different versions of how the key components (theoretical sampling, constant comparative analysis and theoretical saturation) should be implemented. The esoteric terminology coupled with the matrix style of the analysis process can be challenging for new researchers. This paper uses data from a study on parent participation to illustrate the application of the key components of grounded theory. Grounded theory provides clear guidelines on how to analyse qualitative data and so is a rigorous method that provides structure and direction to the researcher. However, theoretical sampling with vulnerable groups can be problematic and requires further discussion and debate from other users of grounded theory.

Keywords grounded theory, qualitative research, methodology, parent participation

Introduction

Grounded theory is an inductive research method that develops theory through constant comparative analysis. The goal is to develop theory that will explain the dominant process in the social area being investigated. It is underpinned by symbolic interactionism which focuses on the nature of social interaction and, essentially, is a theory about human behaviour that sees humans as both actively creating the social environment and being shaped by it. A person's response to an event is determined by their understanding and interpretation of the meaning of the event and the ability to communicate this meaning using language (Blumer, 1969). Since the publication of Glaser and Strauss' seminal work on grounded theory in 1967, there have been many interpretations and applications of the method and disagreements over how the key components should be implemented (Chenitz and Swanson, 1986). Several researchers have criticised grounded theory reports for the mixing of methods and muddling of theoretical perspectives (Baker et al., 1992; Becker, 1993; Sandelowski,

1993; Stern, 1994; May, 1996; Wilson and Hutchinson, 1996) which has led to concerns about rigour (Sandelowski, 1993; Chiovitti and Piran, 2003). The main criticism appears to be that many studies have not adhered to the critical components of the method, resulting in studies that are descriptive rather than with conceptual depth (Becker, 1993).

Disagreement arose between Glaser and Strauss themselves with the publication of Strauss and Corbin's *Basics of Qualitative Research* in 1990. In Glaser's opinion, this text advocated a forcing of the data to form theory, rather than letting the theory emerge from the data, which he termed as 'full conceptual description' rather than grounded theory. Glaser's criticism of Strauss and Corbin's description of grounded theory and his central argument about the emergence of grounded theory has received support from other scholars (Stern, 1994; Robrecht, 1995; Melia, 1996). These authors provide excellent critiques of the key issues in this argument, therefore this paper does not intend to revisit this discussion in detail. It is an important distinction that Glaser allows the data to reveal the theory, whilst Strauss and Corbin look for every contingency, whether it appears in the data or not. It is also significant that the two grounded theorists are seen as demonstrating differing epistemological premises for the method (Annells, 1996). Therefore, it is the belief of this researcher that one should adhere to the original premise of grounded theory, which is that theory emerges from the data, thus this paper reflects a Glaserian approach.

Given that grounded theory is a complex method and the language can be esoteric, many researchers often experience difficulty using the method. Practical 'worked' examples help to explain the process and particularly the method's central components. To this end, this paper will use data from a study on parent participation to illustrate the data analysis process of the grounded theory method. It will draw on Glaser's (1978) description of grounded theory because it provides clear steps on the key principles of the method.

Literature review

With a grounded theory study, the researcher usually begins with a broad aim and a literature review is usually contraindicated. However, others would argue that a literature review is necessary as it helps to identify gaps in knowledge on the topic (Stern, 1980; Cutcliffe, 2000; Chiovitti and Piran, 2003). The aim of this study was to explore the topic of parent participation in the hospitalised child's care from the child's, parents' and nurses' perspectives. Hence a literature review was conducted which revealed that, although there were many descriptive qualitative studies in this area, none had used a grounded theory method to research this topic, and there was a lack of explanatory theory on the subject. It showed that the child's view had been omitted in studies of parent participation. Thus the literature review was very useful as it provided justification for another study in this area and for the particular approach that was taken.

Data collection

In a grounded theory study the data may be collected from interview, observation or documents, or from a combination of these sources. The data were derived from in-depth interviews ($n = 33$), three questionnaires (children only), informal observation, documents (ward philosophies, care plans) and literature. The bulk of the data were from interviews with parents ($n = 10$), their children ($n = 11$) and nurses

($n = 12$) selected from four paediatric wards in two hospitals in England. The type of observation was 'observer as participant' in that the predominant activity was to observe the participants, locations and potentially to interview (Streubert and Carpenter, 1999). Throughout the study, the researcher kept field notes of all observation periods, contacts with participants, discussion with health professionals in the field and reflections on interview data.

Data analysis process

The process of generating theory is one of deconstruction and reconstruction of the data, and the principal strategy for achieving this is the constant comparative method of analysis (Glaser and Strauss, 1967). The steps in the analysis process are grouped into four stages which are outlined in Table 1.

The stages listed in Table 1 imply a linear process, but the method actually involves a matrix with several processes in operation at once (Stern, 1980). For example, as codes were compared, more data were collected, categories were merged, memos were written and compared, then more data were collected. Memos were written at different stages in the analysis and the memos built on previous memos and also captured new insights into the data. Interview transcripts were read and re-read throughout the study as the categories were developed. This 'checking back' is a method of confirming or disconfirming that ensured that the categories were grounded in the data rather than 'flights of fancy' or pet ideas. This is the strength of the grounded theory approach: the conceptualisations are grounded in the social world of participants. The data analysis was a series of overlapping steps

Table 1 Stages of the analytic process

Stages	Procedure	Purpose
1	Listening to the interview tapes Transcription of interviews Creating a database	Heighten awareness of key issues Recording data in word format System for managing the data
2	Line-by-line substantive coding (Writing codes in the margin of the transcript) Put incident and codes on cards Write theoretical notes on cards	Labelling the substance of the data Breaking data down (fracturing the data) Keeping record of analysis Capturing ideas about fragment of data
3	Compile list of codes Group codes into categories	Forming categories Abstraction from the data Integrating the codes
4	Constant comparison of the codes Movement of codes Compare and contrast with previous codes Memos on categories Identify theoretical codes	Discovering and building categories Building and developing categories Integrating the data Capturing ideas and documenting recurring themes Conceptualising how substantive codes relate to each other (developing links and relationships between categories)
	Mapping of categories	Visual representation of categories and relationships
	Using literature as data	Developing the categories

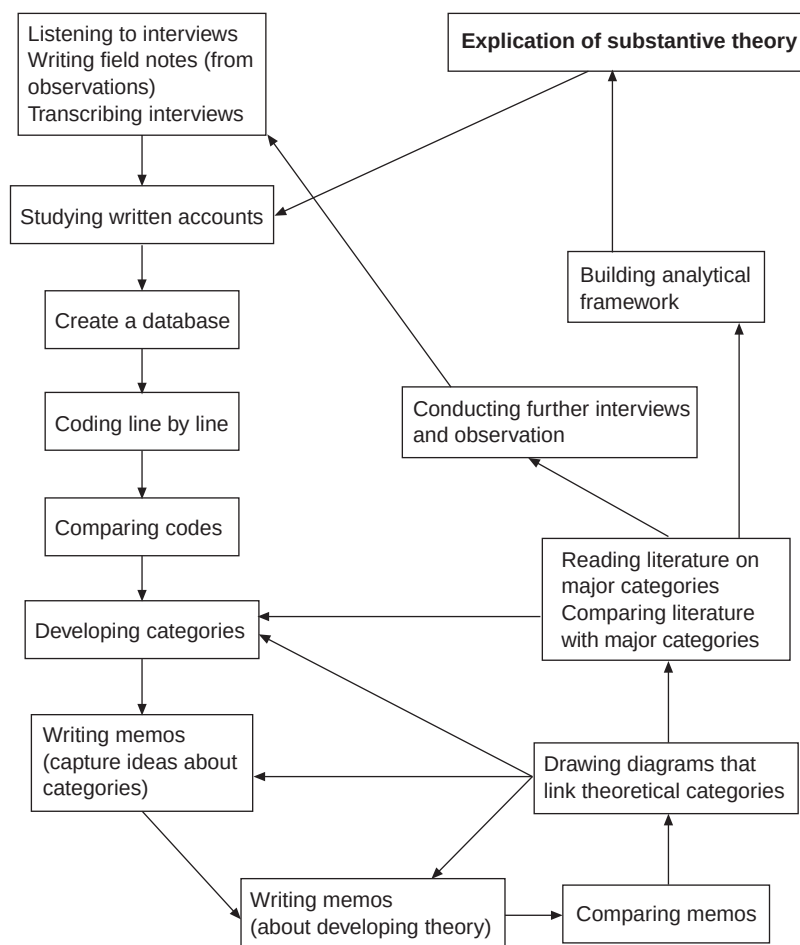


Figure 1 Matrix of the data analysis process

that were revisited at different points (see Figure 1). Thus the analysis process contained both linear and circular dimensions that allowed for a logical systematic analysis and also allowed for introspection and ruminating.

Stage 1: Creating a database

A simple computer package called Filemaker Pro (Claris-Corporation, 1992) was used only to manage the data. As incidents were coded on the transcript, each incident was then entered onto a card on the database, along with the codes attached to it and any memos (thoughts) on the particular incident. These cards could be compared and contrasted. The interview tapes were listened to, broad themes were recorded and then the tapes were transcribed verbatim. Although Glaser (1978) recommends that each interview be analysed before proceeding to the next interview, at times this was not possible. On such occasions, listening to the tape and compiling broad themes ensured awareness of issues prior to the next interview. Interviews

were labelled with codes to protect respondents' identities and were prefaced with a front sheet that contained relevant demographic and observation details. Field notes were written up after every visit to the wards and the data were used to provide background to some of the interview data.

Stage 2: Coding process

In grounded theory, the analysis begins immediately with the first interview and also guides further data collection. The interview transcript is read line-by-line and paragraph-by-paragraph, looking for incidents and facts, and is coded for anything and everything that seems potentially relevant. This coding is very detailed and time-consuming, yet it is critical as it forces the researcher to be open to all possibilities in the data (the discovery in grounded theory) and to systematically conceptualise the data. This is the deconstruction of data as the data are cut into meaningful segments and coded with one or more substantive codes. The fragments of data may vary in length and may contain a variable number of substantive codes. According to Glaser (1978), the length of the fragment is not important; what matters is that it is meaningful. The database record contains space for theoretical notes, which are the researcher's thoughts and impressions about the fragment of data. Table 2 provides an example of an incident and coding.

Table 2 Example of a record from the database

Nurse 10C
ID no: N 10C
Page: 17
Card no: 41
• Code 1 Dislike term 'partnership' • Code 2 Building partnership • Code 3 Building respect • Code 4 Building trust • Code Excessive expectations
Statement I don't like the word partnership. I think . . . maybe if we build, we talk about building partnership if we build respect and trust and those qualities, it would be better . . . (<i>Long pause</i>) within this partnership are there are too many expectations.
Theoretical note Building respect and trust implies that relationship with parents is important but it is not a partnership. The terminology is not appropriate and nurses expect too much from parents. So is it about getting the balance right? Or is it about establishing a relationship characterised by trust and respect and the partnership terminology confuses the issue and is potentially abusive to parents?

The coding of the parents', children's and nurses' interview transcripts generated multiple records and codes. For example, the children's interview transcripts were coded with substantive codes that generated over 720 records with approximately 1,200 codes.

Stage 3: Forming categories

Through constant comparative analysis, the substantive codes are then developed into categories, and the categories are finally integrated into theory. It is the code rather than the data itself that the analyst works with, thus achieving a level of abstraction from the data. Categories are 'simply coded data which seem to cluster together' (Stern, 1980). For example, as each transcript was coded, the generated codes were summarised in one file, thus making 'laundry lists' of substantive codes from the data which were then compared with codes from previous interviews (Chenitz and Swanson, 1986). The interviews from the children, parents and nurses were initially analysed within their grouping. For example, each interview (from a nurse) was coded line-by-line, then compared with codes from previous interviews (from nurses) and then collated into one file in the database. Then as the next nurse transcript was coded, these codes were compared with the first list of codes. The same process was conducted with the parents' and children's transcripts. Table 3 illustrates some of the categories that emerged from the comparison of codes from two nurses' transcripts.

Table 3 Example of collation of codes from two nurses interviews and formation of categories

Codes	Categories
seeking parents wishes N4.33	Developing a relationship
seeking parents wishes N1.16	
finding out about the child N1.38	
finding out about the family N1.38	
finding out reason for anger N1.26	
talking to parents about their feelings N1.25	
asking child about feelings N1.50	
ascertaining child's understanding N4.50	
talking to child N4.50	
developing relationship with child N1.49	
listening to children N1.38 N1.54 N1.56	
forming relationship with parents N4.25	
treating parents or children in open way N1.34	
building a relationship with some parents N4.22	
building up child's self-esteem N1.49	
opportunity to get to know the mother N1.38	
being on first-name terms N4.22	Difficulty establishing a relationship
being casual with some parents N4.22	
difficult to build relationship with such parents or family N4.27	
difficulty establishing a relationship N4.23	
difficulty knowing the child N1.45	
difficulty understanding parents' beliefs N1.74	
difficulty working with such attitudes N1.40	
dislike some parents N4.26	
mother preventing relationship N1.49	
relationship threatening to mother N1.52	

Stage 4: Developing the categories

As categories are formed, the process of developing and integrating the categories is occurring concurrently. This process is somewhat like trying to put the pieces of a puzzle together without having the picture available. Glaser (1978) suggests several strategies to help the researcher through the process: constant comparison and reduction; theoretical sampling; theoretical coding; writing memos; drawing diagrams; and using literature as data.

Constant comparison and reduction of categories Categories are reduced by comparing and contrasting categories to see how they cluster or connect together. This process helps to build, densify and saturate the categories and is also a vital step in discovering the core categories that will form the 'scaffolding' in the final substantive theory. The formation of categories is characterised by fluidity because, as more data is collected, the categories may change, or become part of another category. As Stern points out, 'the researcher may hypothesise that data belong in a certain category and may prove or disprove the hypothesis of categorisation by collecting more data' (Stern, 1985). It is a process of fitting categories together and, as linkages emerge, categories collapse and form more theoretical categories. The categories were compared and contrasted (reduction of categories) until the major categories were identified for each group (nurses, parents and children). Then these categories were developed and integrated through use of theoretical coding, memos, diagrams and literature, to identify the core categories for the substantive theory. The developed theory must be integrated, which means that all parts must fit together and the core category should account for most of the variation in a pattern of behaviour that is both relevant and problematic for the participants involved (Glaser, 1978).

Theoretical sampling Theoretical sampling is a process wherein the researcher jointly collects, codes and analyses the data, and decides which data to collect next and where to find these data, in order to develop the theory as it emerges (Glaser, 1978). Thus the type of sampling is selected according to the developing categories in the emerging theory, rather than a concern for variables such as age, class or characteristics of the sample. Hence, theoretical sampling is an integral part of the data collection and analysis process. The sampling in this study may be seen as comprising four phases that represented different forms of theoretical sampling.

Phase 1

Initially the sample is purposefully selected from an area where the phenomenon is found to exist (Coyne, 1997). The broad subject area was 'parent participation in hospitalised child's care', therefore the intention was to interview children, parents and nurses because they represented information-rich cases who had experience by virtue of their involvement. The only criteria for the children was that they were aged seven years upwards and were physically able to cope with an interview situation. The initial participants were from Ward A (dermatology – chronic illness) and from Ward B (medical and surgical — acute illness). At the start of this study, unstructured interviews were used to collect data in the participants' own words, to gain a description of situations, and to elicit detail using the minimum of control. The interview schedule contained a set of general questions which served as prompts if the case arose. Most of the time, when parents and children were asked the

opening question, they proceeded to 'tell their story' with minimal prompts from the interviewer.

Phase 2

Theoretical sampling is also used as a means to test, elaborate, and refine a category and/or to test the validity of a category (Glaser, 1978). Thus, particular participants may be selected because of their characteristics and the format of the interview may alter according to the dictates of the emerging categories. The data indicated that the category 'time' could be a significant condition linked to categories termed 'relationships' and 'knowing'. The linkages were tentative, which indicated the need for further sampling. Therefore it was decided to collect data from another research site, where the children would experience lengthy admissions (longer than four days) in order to develop and extend the category of time. After observing three more wards, Ward C was chosen as it provided treatment for children with orthopaedic problems. The selection of another site also enabled the comparison and contrasting of data with data on ward culture from the previous two sites.

As the study progressed, the interview schedule became more focused because of new questions related to the developing categories. The format of the interview still remained relaxed, in that the researcher followed up on cues and leads provided by the participants. This does raise the issue of bias, in that concern may be expressed over the possibility of 'leading' the respondent. In clarification, Glaser (1978) points out that the categories emerge from the analysis of the data, so these are sensitising concepts produced by the respondents that are used to uncover more data rather than verify possible existing theoretical biases of the researcher. Therefore the interview guide was reflecting the developing categories rather than any preconceived ideas from the researcher. For example, the issue of 'disruption' and 'parenting role' was evident throughout the first few nurses' interviews, but it soon became clear that there were gaps about the links between these two categories and the related conditions and consequences. Therefore open questions on these categories were incorporated into the interview guide with subsequent nurse respondents.

However, pursuing specific lines of inquiry with the children proved to be more difficult. For example, most of the interviews ended when the children decided that they had said enough, as evidenced by the length of the interviews (ten minutes to one hour). Pursuing other lines of inquiry met with non-committal replies and non-verbal signs of 'switching off'. When attempts were made to probe certain issues by asking about feelings, some children either ignored the question, or said, 'I don't know how I feel about it.' Similarly, other researchers have found that requests for accounts of recent experiences elicited fuller responses from the children than directly asking for opinions or evaluations (Backett and Alexander, 1991; Alderson, 1993). The demands of theoretical sampling were balanced with the need to ensure that the children were not stressed by the interview, and to uphold the principle of beneficence. It was possible, however, to ask questions on some emerging categories without causing discomfort to the children. For example the 'importance of school' and 'making friends in hospital' emerged from the interview with child 1A. Thus with subsequent interviews, questions were posed about school and friendships in hospital which elicited good data that helped to elaborate those categories. Further interview data produced other categories such as 'knowing the nurse' and 'concern for parent', and efforts were made to direct questions around those categories to enhance elaboration and saturation.

Phase 3

The data analysis at this time also indicated that additional data needed to be collected in a theoretical manner to clarify the properties of the main categories. The criterion for judging when to stop sampling the different groups pertinent to a category is the category's theoretical saturation. At this stage of the analysis, the major categories appeared to be: 'being there', 'uncertainty', 'disruption', 'environment', 'involvement', 'knowing', 'trusting', 'relationships', 'balancing' and 'controlling'. The links between the major categories needed to be checked with more nurse participants. Therefore, three more interviews were conducted with nurses from a Ward D (medical and surgical) in a second hospital. In these interviews, the questioning was more focused, as the purpose was to clarify the properties of the major categories and develop hypotheses with nurses from a different site.

Phase 4

This phase did not involve more data collection from participants. However, according to the dictates of grounded theory method, it was a form of data collection as the data already obtained was theoretically sampled. For example, the emerging theory appeared to involve the major categories that were 'being there', 'balancing', 'knowing' and 'trusting'. It seemed that, from the children's and parents' data, 'finding a balance' was a core process that appeared to integrate the major categories and explain the data. However, the nurses' data suggested that 'trying to get a fit' was the core process that explained the underlying action in the data. The category of 'time' was evident in all the data, but it was not clear how time was related to the overall theory. Therefore the researcher re-read all the interview transcripts and theoretically sampled for the properties of time (a major category). This helped to identify the linkages between time and the major categories as time emerged as a sub-category of the categories that were 'being there', 'disruption' and 'balancing'. This stage helped to clarify that knowing and trusting were both properties and sub-categories of balancing. Concurrent with the theoretical sampling of the data, the sampling of the literature helped to clarify the core processes in the study.

Developing categories through theoretical coding To further assist in the development of theoretical codes that describe the links and relationships between categories, the researcher can apply a variety of analytic schemes to the data to enhance their abstraction. Theoretical codes are thus much more abstract than substantive codes and therefore provide a way of thinking about the data in theoretical rather than descriptive terms. To assist in the process of theoretical coding, Glaser (1978) provides many examples of theoretical codes, which he calls 'families'. One of these families he calls the 'range model' which is a simplified version of the more complex 'Six Cs' family of theoretical codes (see causes, contexts, contingencies, consequences, covariances and conditions, 1978: 74). In this range model, the researcher looks for all the possible causes and consequences of the phenomenon. Table 4 provides an example of theoretical coding of categories from the children's data.

This table lists the codes as they appeared at one stage of the study, but the full range of conditions under which these causes and consequences occur still required further development. However, developing theoretical codes helped to conceptualise how categories relate to each other and are integrated into the theory eventually. The analysis is tentative at this stage as there is constant movement of the categories throughout the analytic process.

Table 4 Example of theoretical coding with children's data

Causes	Consequences	Needs	Strategies
Being sick	Being in hospital Being dependent	Needing parents Needing help	Relying on parents Minimising demand on parents Trying to meet own needs
Being hospitalised	Uncertainty Loss of normality Loss of routine Disruption of family routine Disruption Time in hospital Disruption of school Missing friends Loss of freedom	Information Normalcy Needing consistency and routine Company School and friends Needing parents Needing freedom	Comparing Getting information Knowing others Restoring sense of normalcy Re-establishing routine Maintaining a routine Monitoring time Attending school Making friends Getting permission Trying to regain control Getting involved in care Trying to sleep and rest
Noisy and hot environment	Disruption of sleep	Sleep and rest	
Alien environment	Uncertainty Fears Dislike food	Parents/siblings Different food	Seeking information Keeping occupied Getting parents to provide food Balancing needs
Being with others	Worrying about other children Wanting privacy	Needing companionship and privacy	
Receiving treatments	Feeling unprepared Altered body image Invasion Loss/pain Loss of mobility Feeling restricted	Needing information and consultation Needing reassurance and information Needing pain control Needing mobility	Observing Asking for information Preparing self Monitoring self Hoping for wellness Voicing discomfort Asking for pain relief Trying to help self Relying on parents
Busy professionals	Reluctant to ask for help	Needing help	
Lack of consultation	Lack of information	Needing to be respected	Asking for consultation Taking decisions

Developing categories through memo writing In the early stages of the data analysis, the researcher can quickly feel overwhelmed by the proliferation of data produced by the line-by-line coding. To avoid losing track of the analysis, Glaser (1978) suggests writing memos that help capture ideas, note linkages between categories and document the recurring themes and categories noted in the data. This process encourages the researcher to be creative and ideational. Memos were used extensively in this study and helped to 1) keep track of the analysis by documenting what the data were saying about different codes and categories, 2) capture relationships between categories, 3) enhance the theoretical ordering of the categories and 4) integrate existing memos.

The initial memos appeared to be very descriptive and repetitive of the actual statements of the participants, which indicated a difficulty in writing at a theoretical level. According to some grounded theorists, memos should not be re-done on the

Memo 1

This nurse described a situation where the nurses used strategies to remove a parent from bedside in order to develop relationship with a child. The nurses found it difficult to know the child because the mother had a 'disapproving' presence. She described how consequently she weighs up the 'pros and cons' of involving parents in doing care. Developing the relationship was important in order to build up child's self-esteem and enable trust to develop between child and nurses. This implies that nurses may find it difficult to establish a trusting relationship with a child due to parents' presence.

Memo 2

It is important to 'build up' trust with patients as this makes it easier to explain care and deliver care. This implies that trust is important in the formation of relationships and delivery of care. Building trust appears to be a process. Involving parents in care appears to help the trust relationship with child and parents. Why is building trust with the child so important and how does it occur? Do nurses build trust with parents and children?

Memos 3

It seems that nurses are 'strangers' to both parents and children, therefore nurses need to work at building a trusting relationship. Parents' presence provides support and security to their children as the children know and trust them. This implies that parents and children may start an admission from a position of distrust or wariness perhaps.

Memo 4

Involving parents in care reassures the child and helps nurses 'get the children's confidence'. This implies that nurses need parents as it takes time to gain child's confidence. Children who are unaccompanied need to be able to relate to a nurse that they can trust. Trust makes it easier to explain and deliver care to child which was mentioned before. Talking and relating to children daily helps nurses to gain their confidence. Children 'trust you better' and this helps with the delivery of care. This implies that building trust is a gradual process influenced by time that helps with the delivery of care.

Figure 2 Example of memos on trusting

grounds that the researcher felt that her/his skill was poor or that the memos are unclear (Glaser, 1978; Stern, 1985). The important issue is to build upon the memos as the analysis proceeds, rather than present a neat, compact summarisation of the issues. As the study progressed, confidence grew with handling the data and, consequently, the memos became more theoretical, which helped to raise the data to a conceptual level. Figure 2 provides an example of some memos on trust written over a period of time.

Writing memos helped to identify the relevance of the category 'trusting' and some possible linkages to other categories, such as 'knowing' and 'relationships' which indicated that more detail was required on this category and its properties. Therefore, when the issue of trust was mentioned by further participants, the researcher used the opportunity to clarify some of the properties and conditions associated with the category. Second, memos were used to capture relationships between categories and these types of memos are termed 'hypothesizing memos' (Chenitz and Swanson, 1986). For example, the terms 'standing back' and 'taking steps' were repeated frequently by parents and nurses in relation to parents' involvement in care. These terms conjured up the image of participants 'dancing around' each other, which was captured in a rough memo. This imagery helped to capture the tentative

ideas in a memo that later proved quite useful in understanding the relationship between parents and nurses. The significance of this memo did not become apparent until much later in the analysis, when it was linked with the strategy of 'trying to get a fit' and 'finding a balance'.

Third, memos were used to integrate existing memos, which is very important as it is from memos, compiled and sorted, that the analyst derives the material to write up the final theory. Memos were written constantly on all the data from nurses, parents and children, which meant that towards the end of the data analysis, there was a large collection of memos on different categories and issues. Initially the researcher began writing by referring to unsorted, but very rich memos, but eventually the write-up stalled. Indeed, not surprisingly, Glaser warns that memo sorting must not be skipped or hurried since: 'if the analyst does omit sorting, he will indeed have somewhat of a theory, but it will be linear, thin and less than fully integrated' (1978: 116). Hence the process of writing yet more theoretical memos about existing memos enhanced the sorting of the memos and helped to clarify the linkages between the major categories and the core concept. For example, this process revealed that 'time' was a condition rather than a major category and was related to other conditions that were 'knowing' and 'trusting', which influenced the process of 'finding a balance'. This led to a re-examination of the database on the codes and categories, a re-reading of the interview transcripts and the production of more memos. Glaser suggests that, although memo writing begins during data collection, coding and analysing of the data, and peaks as coding saturates, it is *never over* until the final draft is complete. This example of memo sorting clearly illustrates the 'back tracking' matrix nature of the data-analysis process in grounded theory.

Developing categories through diagrams In addition to writing memos, the mapping, linking and ordering of categories were developed through the use of diagrams. This helped to capture creative thoughts on the data and provided a method of documenting tentative hypotheses. Diagrams enhance the conceptualisation process by encouraging the researcher to see theoretical codes related to properties, conditions, strategies and consequences (Glaser, 1978). Constructing diagrams helps to show how the categories relate to each other to develop the theoretical codes. Through the diligent use of diagrams, the researcher may discover relationships that may not have been readily apparent and examination of a diagram may also indicate gaps in the analysis where the categories or emerging theory needs further development. In this study, diagrams also made a strong contribution to the final formulation of the substantive theory as considerable effort was directed towards providing a pictorial representation of the theory so that the core concept was clearly outlined in relation to the main categories. This diagram was the most difficult to compile and underwent several redraftings until it accurately represented the substantive theory. Interestingly Orona (1997) suggests that 'if the researcher is unable to graphically depict "what all is going on here" he or she is probably not genuinely clear of the process yet' (1997: 181). This may not be true of researchers who dislike drawing and thus struggle to capture ideas in graphic form. The diagram of the substantive theory may be seen in Figure 3.

Developing categories through selective sampling of literature Glaser and Strauss (1967) recommends examination of the literature on the area under study once the analytic core of categories has emerged. The literature is searched for differ-

Process	FINDING A BALANCE		
Participants	Children	Parents	Nurses
Strategies	Disruption of being ill Relying upon parents Re-establishing routine 'Fitting in' Helping with care	Disruption of being there Feeling responsible Re-establishing routine 'Fitting in' Providing care	Relying on parents being there Re-establishing parents role Socialising parents and children Maintaining routine
Conditions			
	Knowing	Trusting	Time

Figure 3 Integration of core categories

ent insights or ideas about some of the categories in order to develop and extend the categories. The literature was used to further the process of constant comparative analysis, through seeking similarities and differences to the categories identified in this study, thus acting as a secondary source of data by forming another comparison group with the data. For example, the category of 'being there' was developed through comparison with nursing literature on presencing (Gilje, 1992; Taylor, 1994), and caring (Morse et al., 1990; Gaut, 1992; McCance et al., 1997; Edwards, 2001). This literature revealed that there were different meanings to the category 'being there'; it had links to issue of trusting and that there were different dimensions to 'being there', such as being there as a reliable presence rather than just being present on the ward. This information enhanced understanding of the data from the parents in relation to their presence on the ward, and guided the inquiry process in further interviews with nurses and parents. Some of the categories were also identified in qualitative studies on parent participation (Darbyshire, 1992; Callery, 1995), in a paediatric grounded theory study (Price, 1993) and in a grounded theory study of caregivers for elderly relatives (Shyu, 2000). The categories also led to the examination of unexplored literature on social order theory, disruption theory, humanistic psychology and role theory.

Theoretical saturation

Participants were recruited until theoretical saturation of data was achieved. In grounded theory, data saturation occurs when the categories are saturated, elaborated and integrated into the emerging theory. The process appears quite straightforward, but in practice it involved considerable work using the tools outlined above before the core concept emerged. It became clear that 'finding a balance' was the core concept as it recurred frequently in the data, accounted for most of the variation in a pattern of behaviour identified in the data, and helped structure all the major categories into a workable theory that explained the major problem under scrutiny (Glaser, 1978). Saturation is defined as 'data adequacy' and operationalised as collecting data until no new information is obtained. However, other researchers have questioned the notion of 'absolute' theoretical saturation, as findings are forever tentative and open to modification through the findings of other researchers or one's own subsequent research (Gilgun, 1992; Morse, 1995). Thus saturation of data may be the 'best' that is achieved at a particular time. Gilgun (1992) recommends that

having confidence in your data is what matters and ensuring that the findings are grounded in data, that the concepts and hypotheses extracted from the data have been tested many times within and across cases, and they have been linked to previous research and theory.

Conclusion

This paper has demonstrated how data may be analysed in a grounded theory study. It is not intended as a blueprint; rather, it is offered as just one example of how grounded theory may be used. Each researcher who uses grounded theory will develop their own style depending on their interpretations of the method. What is important is that researchers adhere to the central components of the method. The advantage of the method was the logical systematic research process which resulted in the production of a theory that was relevant. The matrix style of the analysis process can be particularly challenging for new researchers. Furthermore the numerous stages involved in the data analysis process and the theoretical sampling of participants and literature can very demanding and requires close supportive research supervision.

Using the literature as another data source when the major categories have been delineated significantly contributes to the data analysis process. However, there is a danger that one can become enthralled by existing frameworks which seem to offer a quick solution and end up trying to force the data to fit. Of course the constant comparison process will quickly reveal that this is a problem and hence is quite self-corrective. But considerable time could be lost if one is not careful with the use of literature as another data set. The final point which should be considered is that theoretical sampling is not easy to achieve with children, and could potentially place undue pressure on them. Grounded theory is a method that is not easily understood, there are disagreements about its central premise and there are many different interpretation of the method. Consequently it is important that researchers publish their techniques of using grounded theory to provide guidance and structure for new researchers.

Key points

- Grounded theory is a popular research method for the study of nursing phenomena.
- Different versions of grounded theory and the lack of agreement among the originators, can cause confusion.
- It is important that researchers adhere to the central components of the method and not take shortcuts.
- Theoretical sampling with vulnerable groups such as sick children can be problematic.
- The matrix style of the analysis process can be challenging for new researchers thus close supervision from a grounded theory expert is essential.

References

- Alderson, P. (1993) *Children's Consent to Surgery*. Oxford: Oxford University Press.
- Anells, M. (1996) Grounded theory method: philosophical perspectives, paradigm of inquiry and postmodernism. *Qualitative Health Research* **6**:3, 379–393.
- Backett, K., Alexander, H. (1991) Talking to young children about health: Methods and findings. *Health Education Journal* **50**:1, 34–38.
- Baker, C., Wuest, J., Stern, P.N. (1992) Method slurring: the grounded theory/phenomenology example. *Journal of Advanced Nursing* **17**: 1355–1360.
- Becker, P.H. (1993) Common pitfalls in published grounded theory research. *Qualitative Health Research* **3**:2, 254–260.
- Blumer, H. (1969) *Symbolic Interactionism: Perspective and Method*. Englewood Cliffs: Prentice Hall.
- Callery, P. (1995) *An Investigation into the Role of Parents in the Care of Hospitalised Children*. Unpublished PhD thesis, University of Liverpool, Liverpool.
- Chenitz, W.C., Swanson, J.M. (eds) (1986) *From Practice to Grounded Theory: Qualitative Research in Nursing*. Menlo Park, CA: Addison-Wesley Publishing.
- Chiovitti, R.F., Piran, N. (2003) Rigour and grounded theory research. *Journal of Advanced Nursing* **44**:4, 427–435.
- Clarisc Corporation (1992) *Filemaker Pro User's Guide; Filemaker Pro Version (Version 2.0)*. California: Clarisc Corporation.
- Coyne, I.T. (1997) Sampling in qualitative research: purposeful and theoretical sampling: merging or clear boundaries? *Journal of Advanced Nursing* **26**: 623–630.
- Cutcliffe, J.R. (2000) Methodological issues in grounded theory. *Journal of Advanced Nursing* **31**:6, 1476–1484.
- Darbyshire, P. (1992) *Parenting in Public: A Study of the Experiences of Parents Who Live-in with their Hospitalised Child, and of their Relationships with Paediatric Nurses*. Unpublished PhD thesis, University of Edinburgh, Edinburgh.
- Edwards, S.D. (2001) Benner and Wrubel on caring in nursing. *Journal of Advanced Nursing* **33**: 167–171.
- Gaut, D. (1992) *The Presence of Caring in Nursing*. New York: National League for Nursing.
- Gilgun, J.F. (1992) Definitions, methodologies, and methods in qualitative family research. In: Gilgun, J., Daly, F.K., Handel, G. (eds) *Qualitative Methods in Family Research*. Newbury Park: Sage, 22–41.
- Gilje, E. (1992) Being there: an analysis of presence. In: Gaut, D. (ed.) *In the Presence of Caring in Nursing*. New York: NLN, 53–65.
- Glaser, B.G. (1978) *Theoretical Sensitivity*. Mill Valley, CA: Sociology Press.
- Glaser, B.G., Strauss, A. (1967) *The Discovery of Grounded Theory*. Chicago: Aldine Publishing.
- McCance, T.V., McKenna, H.P., Boore, J.R.P. (1997) Caring: dealing with a difficult concept. *International Journal of Nursing Studies* **34**:4, 241–248.
- May, K.A. (1996) Diffusion, dilution, or distillation? The case of grounded theory method. *Qualitative Health Research* **6**:3, 309–311.
- Melia, K.M. (1996) Rediscovering Glaser. *Qualitative Health Research* **6**:3, 368–378.
- Morse, J.M. (1995) Editorial: the significance of saturation. *Qualitative Health Research* **5**:2, 147–149.
- Morse, J.M., Solberg, S.M., Neander, W.L., Bottoroff, J.L., Johnson, J.L. (1990) Concepts of caring and caring as a concept. *Journal of Advanced Nursing* **13**: 1–14.
- Orona, C.J. (1997) Temporality and identity loss due to Alzheimer's disease. In: Strauss, A. and Corbin, J. (eds) *Grounded Theory in Practice*. Thousand Oaks: Sage, 171–196.
- Price, P.J. (1993) Parents' perceptions of the meaning of quality nursing care. *Advances in Nursing Science* **16**:1, 33–41.
- Robrecht, L.C. (1995) Grounded theory: evolving methods. *Qualitative Health Research* **5**:2, 169–177.
- Sandelowski, M. (1993) Rigor or rigor mortis: the problem of rigor in qualitative research revisited. *Advances in Nursing Science* **16**:2, 1–8.
- Shyu, Y.L. (2000) Patterns of caregiving when family caregivers face competing needs. *Journal of Advanced Nursing* **31**:1, 35–43.
- Stern, P.N. (1980) Grounded theory methodology: its uses and processes. *Image* **12**:1, 20–23.
- Stern, P.N. (1985) Using grounded theory method in nursing research. In: Leininger, M. (ed.) *Qualitative Research Methods in Nursing*. Orlando: Grune and Stratton, pp. 149–160.
- Stern, P.N. (1994) Eroding grounded theory. In: Morse, J.M. (ed.) *Critical Issues in Qualitative Research Methods*. Thousand Oaks, CA: Sage, 212–223.
- Streubert, H.J., Carpenter, D.R. (1999) *Qualitative Research in Nursing: Advancing the Humanistic Imperative*. Philadelphia: Lippincott.
- Taylor, B.J. (1994) *Being Human: Ordinarity in Nursing*. Melbourne: Churchill Livingstone.
- Wilson, H.S., Hutchinson, S.A. (1996) Methodological mistakes in grounded theory: is there a difference? *Journal of Advanced Nursing* **31**:6, 1485–1492.

Correspondence should be addressed to:

Imelda Coyne
Lecturer in Children's Nursing
School of Nursing
Faculty of Science and Health
Dublin City University
Dublin 9
Ireland
Email: Imelda.Coyne@dcu.ie
Tel.: 017008504