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# **WOMEN'S EVALUATIONS OF INTRAPARTUM AND POSTPARTUM CARE**

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To Gabriel, Rebecca, and Petter



# ABSTRACT

## **Women's evaluations of intrapartum and postpartum care.**

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The overall aim of this thesis was to increase understanding of women's evaluations of intrapartum and postpartum care. Evaluations of specific aspects of care, general assessments of intrapartum and postpartum care, and predictors of not being satisfied were investigated, as well as negative experiences of postpartum care, as expressed in women's own words.

The four papers included in this thesis are based on selected quantitative data (Papers I-III) and qualitative data (Paper IV) from a national prospective longitudinal study (the KUB study: Women's Experiences of Childbirth). During a period of three weeks, evenly spread over one year (in May and September 1999 and January 2000), women were recruited at their first booking visit at an antenatal clinic. In total, 593 (97%) antenatal clinics participated in the recruitment. According to the Swedish Medical Birth Register, 4600 women were eligible for study. Approximately 3000 Swedish-speaking women were surveyed at three time points: early pregnancy, two months and one year postpartum. The number of respondents to the first questionnaire was 3061, to the second 2762 and to the third 2563. To assess representativity, the background characteristics of the study sample were compared with the total Swedish birth cohort of women in 1999.

When asked to give an overall assessment of their experiences at two months after the birth, 10% of new mothers were not satisfied with intrapartum care and 26% were not satisfied with postpartum care. A more detailed analysis, including specific questions related to different aspects of care (interpersonal care, information and decision-making, information and support, the physical environment, medical check-ups and breastfeeding support) revealed a larger percentage of dissatisfied mothers. By this method, 33% were not satisfied with intrapartum care when assessments on the different dimensions were taken into account simultaneously, and 47% were dissatisfied with postpartum care. These findings illustrate the complexity of care evaluations, and that single-item questions may underestimate negative experiences.

When taking all aspects of intrapartum and postpartum care into account, those related to emotional dimensions of care seemed to influence women's assessments the most. Interactions with the caregiver and the interpersonal manner of the caregiver were particularly important. Further important factors were: having sufficient time for personal support, as well as information and involvement in care decisions. Findings indicate that women should be given the opportunity to talk through their birth experience postpartum and air their own questions and concerns. On the postpartum ward, lack of attention to the mother herself was identified as a problem. Dissatisfaction with time available for support and care, was not necessarily too short, but rather inappropriate or not tailored to individual needs. Similarly, the duration of the hospital stay was not seen as sensitive to individual needs. A lack of balanced breastfeeding information and support, with the absence of a tolerant and respectful attitude to mothers who experience difficulties, was reported. The physical environment, both during and after the birth, was associated with women's negative experiences of care. Smaller units and family-oriented wards, where the baby's father could stay overnight, were associated with a positive experience of postpartum care.

Some maternal characteristics and health problems during pregnancy related to how care was experienced. Pregnant women who experienced many physical problems had an increased risk of a more negative assessment of both episodes of care, and the risk increased with the number or severity of symptoms. Women with higher depressive symptoms and lower sense of coherence were primarily dissatisfied with interpersonal care as well as information and decision-making during labour. The opposite was found in women who were very satisfied with postpartum care. The outcome of labour and birth, such as infant health, affected women's ratings of intrapartum care. A woman's feelings during labour also seemed to influence the way she rated intrapartum care retrospectively.

Altogether 150 women gave written negative comments about postpartum care in response to an open-ended questionnaire. Problems described by women were: lack of opportunity to rest and recover, non-individualised information and breastfeeding support, and inappropriate symptom management.

Keywords: Intrapartum care, postpartum care, risk factors, patient satisfaction, quality of care, mothers' experiences, cluster analysis, content analysis

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## LIST OF PUBLICATIONS

This thesis is based on the following papers, which will be referred to in the text by their Roman numerals:

- I. Waldenström U, Rudman A, Hildingsson I  
Intrapartum and postpartum care in Sweden: women's opinions and risk factors for not being satisfied. *Acta Obstetrica et Gynecologica Scandinavica*, 2006; 85(5), 551-560.
- II. Rudman A, El-Khoury B. M, Waldenström U  
Women's satisfaction with intrapartum care - A pattern approach. *Journal of Advanced Nursing*.2007; 59(5), 474–487
- III. Rudman A, El-Khoury B. M, Waldenström U  
Evaluating multidimensional aspects of postnatal hospital care. *Midwifery*. *In press*
- IV. Rudman A, Waldenström U  
Critical views on postpartum care expressed by new mothers  
*Submitted*

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## LIST OF ABBREVIATIONS

ANOVA	Analysis of variance
Breastf	Breastfeeding
CFI	Comparative Fit Index
Check	Check-ups
CI	Confidence Interval (Here 95%)
CS	Caesarean Section
EESS	Explained Error Sum of Squares
Env	Environment
EPDS	The Edinburgh Postnatal Depression Scale
ESS	Error Sum of Squares
EXACON	Exact analyses of single cells in a contingency table
Inf/ Des	Information and decision-making
Inf/ Supp	Information and support
Inter pers	Interpersonal care
IPC	Intrapartum care
IP	Intrapartum
NEO	Neonatal clinic
KUB	Women's Experiences of Childbirth (Kvinnors Upplevelse av Barnafödande)
MBR	The National Medical Birth Register (Swedish National Board of Health and Welfare)
MFR	Medicinska FödelseRegistret (The National Birth Register, Swedish National Board of Health and Welfare)
NS	Non-significant
OR	Odds Ratio
PPC	Postpartum care
PP	Postpartum
RMSEA	Root Mean Square Error of Approximation
SD	Standard Deviation
SOC	The Sense of Coherence scale
SPSS	Statistical Package for the Social Sciences
SRMR	The Standardised Root Mean Square Residual
T1	Questionnaire administered in early pregnancy (average 16 gestational weeks)
T2	Questionnaire administered two months postpartum (average 10 weeks)
T3	Questionnaire administered one year postpartum (average 1 year and 1 month)

## LIST OF DEFINITIONS

Term used in this thesis	Definition
Accessibility/convenience	“Factors involved in arranging to receive medical care (e.g., time and effort required to get an appointment, waiting time at office, ease of reaching care location).” p. 248 [1]
Attitude	“attitude represents a summary of evaluation of a psychological object captured in such attribute dimensions as good-bad, harmful-beneficial, pleasant-unpleasant, and likable-dislikable” p. 28 [2]
Availability	“Presence of medical care resources (e.g., enough hospital facilities and providers in area).” p. 248 [1]
Cognitive appraisal	“cognitive appraisal” is the cognitive process of evaluation when a person considers what impact an event or encounter has on their own well-being [3]
Continuity	“Sameness of provider and/ or location of care (e.g., see same physician).” p. 248 [1]
Coping	“constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” p. 141 [3]
Cluster analysis	To “find groups of similar entities in a sample of data” p. 33 [4]
Clusters	Groups found in a cluster analysis
Dissatisfaction with care	<ul style="list-style-type: none"> <li>• Women who were not positive (very negative + negative) or had mixed feelings (neither positive nor negative) (Paper I)</li> <li>• Women in a cluster with a z-transformed mean value between -1 and -2 SD were defined as “dissatisfied” (Papers II-III)</li> <li>• Women in a cluster with a z-transformed mean value less than -2 SD were defined as “very dissatisfied” (Papers II-III)</li> </ul>
Efficacy/outcomes	“The results of medical care encounters (e.g., helpfulness of medical care providers in improving and maintaining health).” p. 248 [1]
Finances	“Factors involved in paying for medical services (e.g., reasonable costs, alternative payment arrangements, comprehensiveness of insurance coverage)” p. 248 [1]
Information and decision-making	Giving and explaining information and mutual decision-making (Paper II)
Interpersonal manner	”Features of the way in which providers interact personally with patients (e.g., concern, friendliness, courtesy, disrespect, rudeness).” p. 248 [1]
Intrapartum	The period of time during labour and birth
Parity	The number of times a woman has given birth
Patient satisfaction rating	‘a personal evaluation of healthcare services and providers’ p. 247 [1] ‘multiple evaluations of distinct aspects of health care which are determined (in some way) by the individuals’ perceptions, attitudes, and comparison processes’ p. 42 [5]
Postpartum	After birth. Usually hospital stay in a postpartum ward.
Physical environment	“Features of setting in which care is delivered (e.g., orderly facilities and equipment, pleasantness of atmosphere, clarity of signs and

Satisfaction with care	<p>direction).” p. 248 [1]</p> <ul style="list-style-type: none"> <li>• Women who were positive or very positive (Paper I)</li> <li>• Women in a cluster with a z-transformed mean value <math>&lt; 0.5</math> but <math>&gt; -1</math> SD were defined as “average satisfied” (Papers II-III)</li> <li>• Women in a cluster with a z-transformed mean value <math>&gt; 0.5</math> SD above the mean for the total sample were defined as “very satisfied” (Papers II-III)</li> </ul>
Technical quality	<p>”Competence of providers and adherence to high standards of diagnosis and treatment (e.g., thoroughness, accuracy, unnecessary risks, making mistakes).” p. 248 [1]</p> <p>None of Ware’s dimensions were found where information was explicitly included, although in earlier work it is inherent in what Ware and Snyder call perceived quality [6] and later it is also included in technical quality of care [7]</p>
Quality of care	<p>“ the criteria of quality are nothing more than value judgments that are applied to several aspects, properties, ingredients or dimensions of a process called medical care. As such, the definition of quality may be almost anything anyone wishes it to be, although it is, ordinarily, a reflection of values and goals current in the medical care system and in the larger society of which it is a part.” P. 692 [8]</p> <p>“Quality of care” refers to the worth or excellence of various attributes of medical care. Most definitions focus on the encounter or episode of care and include such attributes as the technical process of care (for example, diagnosis and management) and interpersonal features of the provider-patient relationship.” P. 34 [9]</p>
Ward cluster analysis	<p>A hierarchical agglomerative clustering technique [10]</p>

# 1 BACKGROUND

The transition to motherhood is a major life event that imposes a dramatic change on a woman's life situation. Physical and social adjustments, as well as development of maternal identity, are involved in this process. The woman is exposed to new challenges, and this period entails much uncertainty, which motivates her to seek help and information. The help and care received during childbirth may have long-term effects on the woman, the baby and the family [11]. In order to provide appropriate care it is important to understand women's experiences throughout this process [11], and to incorporate their perspectives when evaluating healthcare services [12].

Interest in the patient perspective took off in the 1950s, when researchers found a link between satisfaction and compliance with medication and recommended treatment [13]. This finding, in combination with a stronger focus on consumers' rights, made the user perspective an important aspect in assessments of quality of care [13, 14].

In the following background section, the context of Swedish maternity care will be briefly presented, including a description of Swedish hospital intrapartum and postpartum care. This will be followed by a description of earlier research on care evaluations, focusing on concepts related to quality of care, patient satisfaction and dissatisfaction with care. Some previous discussions on methodological issues will then be reviewed. In this way, questions concerning how to study and measure evaluations of care in general are highlighted. Next, a presentation of issues specifically related to evaluations of maternity care is given, starting with concerns regarding birth experience and control, followed by two sections related to care during and after birth. Finally, the starting point of the papers in this thesis will be briefly described.

## 1.1 MATERNITY CARE IN SWEDEN

In the context of maternity care, the principal objective of antenatal, intrapartum and postpartum care is to secure that pregnancy, labour and birth proceed with a minimum of complications and medical interventions, and at the same time make the entire process a positive experience for the expectant and new parents [15]. Outcomes of care have primarily dealt with the "5 Ds", i.e. death, disease, disability, discomfort and dissatisfaction [16]. However, until 60 years ago, improvements in care mainly focused on three of these outcomes, i.e. death, disease and disability. This thesis derives from the following Swedish context, where maternity care has led to dramatically reduced maternal and infant mortality in the past 250 years [17, 18]. The most significant measures taken to decrease maternal mortality were public health information, training of midwives, hospitalisation of childbirth, and modern antenatal, intrapartum and postnatal care [17]. Medical safety during pregnancy and birth is very high in Sweden today, despite a considerable degree of complications that need medical interventions [19]. Perinatal mortality (5/1000 live births) and maternal mortality (5/100 000) are among the lowest in the world due to healthy and well educated mothers, good social and sanitary circumstances, and a high standard of maternity services [18-20]. In spite of favourable outcomes of care, such as low perinatal and maternal mortality, approximately 60% of women aged 25-34 years, who were cared for in a Swedish hospital during 2002 were there because of

pregnancy- or delivery-related problems (normal births and abortions not included) [19]. Care is available free of charge for all women, since it is financed via the national taxation system. As a result, preventive antenatal care basically reaches almost all pregnant women. The aim of the preventive care is to continuously monitor the health of mothers and babies, but also to encourage breastfeeding, provide psychological support, and give information about the delivery and postpartum adjustments with a newborn baby [18]. Almost all women in Sweden give birth in hospital, where they are primarily cared for by qualified nurse-midwives. Obstetricians are on site at the delivery ward in most hospitals, but are mainly involved in cases that deviate from normal progress. Intrapartum care is provided in a similar way in all hospitals.

## **1.2 SWEDISH HOSPITAL MATERNITY CARE**

### **1.2.1 Intrapartum care**

Fifty years ago, care providers were expected to monitor labour by listening to the fetal heart with a stethoscope, and by doing external, and sometimes internal, examinations of the descent of the fetal head. The philosophy was expectation, i.e., not to intervene unless absolutely necessary. Since then, the philosophy has changed to a more active management of labour and birth [18, 19]. Electronic fetal monitoring has almost replaced auscultation by stethoscope; labour is more often stimulated by oxytocin; epidural analgesia is common practice; and operative deliveries are increasing. For example, about 50% of all first-time mothers in Sweden had epidural pain relief in 2005, and the caesarean section rate was almost 20% [18].

Parallel to the increasing medicalisation, more attention has been given to psychosocial aspects of childbirth [18]. The birth environment, patients' involvement in decision-making, childbirth fear, continuity of care, and caregivers' ability to deal with emotional and psychological distress, are areas that have been discussed, and where changes in the services have been made [18, 21]. Also, research in the area of maternity care during the last two decades has included questions about emotional responses and satisfaction, experienced by the patient [18].

International studies of care usually show high levels of satisfaction [22, 23], in particular in relation to maternity care, where women's responses are very positive with low or no variation [24, 25]. In many studies, no distinction is made between women's experiences of care received during labour and the overall experience of childbirth. In the current KUB study, attempts were made to separate these two aspects. Whereas satisfaction with care is the focus of this thesis, another publication investigated the experience of childbirth as such, and found that only 7% rated it negatively [26].

### **1.2.2 Postpartum care**

The goals of postpartum care in hospital have changed over recent decades. In 1960, the aims were defined by the Swedish National Board of Health and Welfare as being: 1) initiation of breastfeeding; 2) maternal rest; 3) learning to care for the baby; and 4) increase of infant weight [27]. The recommended length of stay in hospital after a normal birth was 7 to 8 days. At that time, postpartum care was characterised

by strict and rigid routines, such as scheduled breastfeeding every fourth hour during daytime, and supplements in the nursery at night. The mother's uterus and bleeding were checked regularly, visiting hours were restricted, and the baby's father was treated as any other visitor. Since then, dramatic changes have taken place. The nurseries have been closed down, and mother and baby room-in day and night. Scheduled breastfeeding has been replaced by breastfeeding on demand, visiting hours are more flexible, and fathers can stay at the postpartum ward during daytime, and in many places around the clock during the entire stay. The number of women in each room has been reduced, from 4-6 in some hospitals to 1 or 2. Another dramatic change is the reduction in the number of beds in the postpartum wards, and the ensuing reduction in the length of stay (Figure 1).

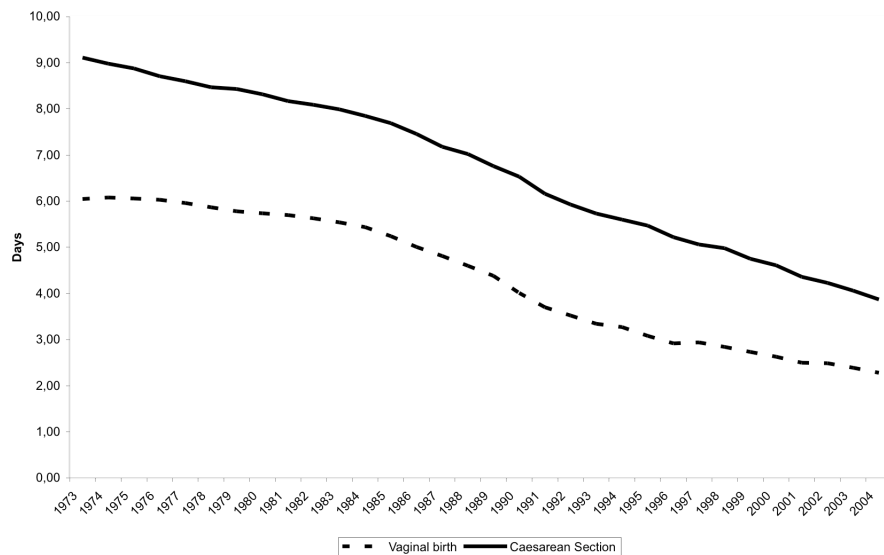


Figure 1. Average number of days before discharge after vaginal and caesarean birth respectively.

\*The information derives from Swedish National Board of Health and Welfare (2004) The National Birth Register, Centre for epidemiology, Stockholm.

Early discharge from hospital was introduced in Sweden in the 1980s and defined by the Swedish ministry of health as: discharge of a healthy mother and infant within 3 days postpartum [28]. In 2004, the average length of stay after a vaginal delivery was 2.28 days [29]. All these changes in the Swedish system have been rather similar to those taking place in many other countries. One difference is that postpartum follow-up at home has not been part of standard care in Sweden [18], as, for instance, in the UK, Canada and Australia.

### 1.3 EVALUATION OF CARE – THEORETICAL FRAMEWORK

A brief presentation of concepts related to quality of care, patient satisfaction and dissatisfaction with care will be made in the following. Questions concerning some patient characteristics influence on care ratings will be discussed.

#### 1.3.1 Evaluating quality of care

There are several theoretical concepts that are commonly used when defining quality of care. In the field of medical research, Donabedian's framework of structure, process and outcome is extensively used in evaluations of healthcare quality [8]. The

structural characteristics refer to “*having* the right things”; processes to “*doing* the right things”; and outcomes to “*having* the right things *happen*” [16]. Outcomes have dealt with the “5 Ds” (i.e. death, disease, disability, discomfort and dissatisfaction) mentioned earlier. In this context, dissatisfaction (or satisfaction) reflects a cognitive evaluation and an emotional reaction to the structure, process and outcome of maternity services [30].

A user-based view of quality measurement is common within medical and nursing research [12, 31, 32]. Wilde and colleagues [31], for example, presented a model according to which quality of care was explained from the patient’s perspective. Their model outlined two basic conditions of care quality, namely: the resource structure of the care organisation and the patient’s own preferences. Patients’ perceptions of quality of care are considered from the following four dimensions in Wilde and colleagues’ model: “the medical-technical competence of the caregivers; the physical-technical conditions of the care organization; the degree of identity-orientation in the attitudes and actions of the caregivers and the socio-cultural atmosphere of the care organization” p. 115 [31].

Since generic definitions lack clear demarcations, and the quality outcomes of care to a great extent depend on type of care and service setting, a definition of quality of care specific to maternity care services is justified. Pittrof and colleagues [33] proposed such a definition: “High quality of care in maternity services involves providing a minimum level of care to all pregnant women and their newborn babies and a higher level of care to those who need it. This should be done while obtaining the best possible medical outcome, and while providing care that satisfies women and their families and their care providers. Such care should maintain sound managerial and financial performance and develop existing services in order to raise the standards of care provided to all women.” p. 278 [33].

According to this definition, provision of care that satisfies women and their families is a recognised and important part of maternity care quality outcomes. Within healthcare services in general, this interest is reflected by “dissatisfaction” being one of the five frequently investigated outcomes of care. The increased number of studies of patients’ satisfaction with care in the 1980s was a result of a growing interest in the user perspective [12, 34] and an interest in clarifying important criteria for the evaluation of healthcare [13]. For example, Anderson stated that overall feelings of satisfaction were important with regard to service return intention in a group of hospital maternity services users. Most influential attributes on service return behaviours were factors related to patient satisfaction with obstetrical nursing expertise and care [35]. The purpose of measuring satisfaction is, according to Fitzpatrick [36], twofold. First, its function is to understand patients’ experiences and responses to healthcare, and secondly, to measure the quality of care received and identify problem areas. The concept ‘satisfaction’ has been recognised as multidimensional and complex in nature [1, 37] based on a range of dimensions. Ware and colleagues derived the following widely used taxonomy of dimensions of patient satisfaction with quality of care: interpersonal manner, technical quality, accessibility/convenience, finances, efficacy/outcomes, continuity, physical environment and availability of care.



### 1.3.2 Patient satisfaction: an attitude

John Ware has contributed to the early theoretical work on patient satisfaction, including the building of the construct ‘satisfaction’ [38]. Ware and colleagues proposed that a patient’s satisfaction rating is “a personal evaluation of healthcare services and providers” p. 247 [1]. A more extended definition provided by Linder-Pelz was that satisfaction ratings comprise “multiple evaluations of distinct aspects of health care which are determined (in some way) by the individuals’ perceptions, attitudes, and comparison processes” p. 42 [5]. Implicit in her definition is the recognition that satisfaction data are limited by their subjective nature. This means that the actual healthcare one person receives remains constant, whereas satisfaction with the same care is relative. Ratings can change when standards of comparison or expectations change, and they are therefore quite distinct from objective evaluations. However, this is the case with any social or psychological data, and despite the limitations of self-rated measures they are primary data, which for instance is what nursing judgements are mainly based on [39].

Linder-Pelz’s definition of satisfaction originates from Fishbein and Ajzen’s attitude theory, and from research about job satisfaction [37]. Ajzen’s review from 2001, presents a generally accepted definition of attitude, saying that an “attitude represents a summary of evaluation of a psychological object captured in such attribute dimensions as good-bad, harmful-beneficial, pleasant-unpleasant, and likable-dislikable” p.28 [2]. Theorists consider that the broader purpose of an individual’s attitudes is to facilitate adaptation to the environment. This adaptation serves different functions, such as a value-expressive function, a knowledge function, an ego-defensive function and a social-adjustive function [2]. Not only can attitudes serve different functions, but a person can also hold more than one attitude toward a given object in the same context, as explained by the model of dual attitudes. This means that when attitudes change, the new attitude overrides but does not necessarily replace the old one [2].

If the purpose of attitudes is to facilitate adaptation, how then are attitudes formed and how easily accessible are they in memory? Attitudes are assumed to be influenced by cognitions as well as affect. Affective aspects and feelings are considered easier to remember, and may therefore overshadow beliefs if they are of opposite valence. However, individual preferences also exist. One person (a “thinker”) may base their attitudes more on cognition, whereas another (a “feeler”) may base them on affect. “Thinker” attitudes are assumed to be predicted by beliefs about the object of evaluation, and “feeler” attitudes by the person’s feelings [2]. Similarly, attitudes toward certain objects rely more on affect than cognition [2].

According to Larsson and co-workers [40], attitudes about care are primarily based on feelings. They suggest a theoretical model, which uses the framework of Lazarus and Folkman [3], where satisfaction ratings mainly represent emotional responses (i.e. affects and feelings). Larsson et al. stated that “the way a person appraises and copes with a situation causally contributes to the person’s emotional reaction” and their satisfaction p.166 [40].

### **1.3.3 Patient dissatisfaction**

In what way may patient dissatisfaction differ from patient satisfaction? Describing and understanding dissatisfaction and negative responses to healthcare is not always straightforward. A study exploring the meaning of dissatisfaction and negative responses to healthcare outlined the concept “personal identity threat” as the grounds for dissatisfaction, and as a way of describing the complexity of negative experiences. Dehumanising, disempowering, and devaluing experiences resulted in a perceived challenge to personal identity and an undermining of the sense of self [41]. One type of dehumanisation was rule-breaking. This meant, when staff broke unspoken “taken-for-granted” rules when interacting with those receiving care (e.g. not listening carefully, being aggressive, interrupting, shouting or breaking in on privacy) [42]. When trying to understand why these rules are broken within medical settings, it has been suggested that it relates to the way “work is organised”, that staff usually do not know the patients, and that the medical aspects of the work are prioritised over psychological considerations [42].

Disempowerment, in this medical discourse, can either be when power is exerted over patients or taken from them. Coyle found that women in particular used the metaphor of a production line, i.e. having little influence on how they were to have their babies. Bad experiences comprised being objectified and treated in a stereotype way, as a “non-person”. Bad experiences were also associated with undermining personal knowledge and experiences.

### **1.3.4 Patient satisfaction and patient characteristics**

Patient satisfaction/dissatisfaction ratings are determined by many factors, and these factors may be related to the care as well as to patient characteristics. However, Ware’s [1] conclusion that the effects of patient characteristics, e.g. expectations and preferences, were of theoretical rather than practical value due to them being small in size compared with the reported experiences of care, is fundamental here. According to Ware: “First, patient satisfaction with medical care is a multidimensional concept, with dimensions that correspond to the major characteristics of providers and services. Second, the realities of care are reflected in patient satisfaction ratings.” p.262 [1].

Another patient characteristic that may influence care ratings is personality. Recent research from the Netherlands, showed that personality at the level of the broad Big Five dimensions (extraversion, agreeableness, conscientiousness, emotional stability, and autonomy) was only marginally associated with patient satisfaction [43]. It has also been discussed whether some individuals are generally satisfied or dissatisfied. Lazarus and Folkman [3] have emphasised that a person’s dissatisfaction in one situation says little or nothing about dissatisfaction in another, or whether the person is dissatisfied in general. However, in the long run, it is possible that people who cope effectively will experience more satisfaction. They will be less drained of energy, and their personal goals will be realised more easily.

## 1.4 STUDYING AND MEASURING SATISFACTION WITH CARE

In this section questions concerning how to study and measure evaluations of care in general are highlighted and some previous discussions on methodological issues will be reviewed.

When satisfaction came to be recognised as a multidimensional and complex concept [1, 13, 37, 44, 45] it became apparent that there were difficulties in using global measures [34, 46]. This was attributed to the fact that respondents may relate to different aspects of satisfaction in different ways: a person may be satisfied with one aspect of care but not with another [45]. Another source of uncertainty in interpreting global ratings is that assessments are a problem for some respondents, partly because experiences of care are not static and may fluctuate across different providers [34].

Another methodological issue is that negative statements have been difficult to obtain, as reflected in high reported levels of satisfaction, even when less favourable experiences were apparent [23, 47]. It seems that service users allow very poor quality of care before they express dissatisfaction [13, 23]. This reluctance to make critical assessments has been explained with reference to patients' perceptions of gratitude, unwillingness to make negative evaluations (social unacceptability), loyalty and confidence in the healthcare system [24, 38]. Furthermore, evaluations may be influenced by the reason for being admitted to hospital, and expectations[24].

Williams and colleagues [23] compared positively skewed scale scores with qualitative descriptions of experiences of care, based on the same caring episode. They found that the satisfaction scores were determined by duty and culpability. These characteristics were interpreted as "filters" through which positive and negative experiences flowed before they turned into evaluations of the service. Duty referred to "the service user's perception of what are and what are not the roles and obligations of a service or any of its constituent parts to the service users" (p. 1354) [23]. The point of culpability was that, even if a service had failed in its duty and produced a negative experience, a person would not evaluate the service negatively if "sufficient mitigating circumstances for the service failure" could be found (p. 1356) [23]. Consequently, high satisfaction scores did not automatically represent a good experience, but rather reflected the view that "they are doing their best" or "they are doing their job". Based on these findings, Williams and colleagues recommended the use of dissatisfaction rates, rather than satisfaction rates. By doing so, one would obtain measures of the absolute minimum level of negative experiences [23].

As a result of these measurement difficulties, studies often fail to pinpoint less effective areas of care where improvements could be made [23, 38]. Not surprisingly, the relevance of patient satisfaction studies has therefore been questioned, given that they produced these high levels of satisfaction even when experiences of care proved to be non-optimal [23, 38, 47, 48]. Some advocate a general shift in focus from satisfaction towards dissatisfaction due to this lack of variability in responses of satisfaction [38], and because such a focus would better highlight problems that may need consideration [49]. Others suggest the opposite: that "very satisfied" should be the standard at which audit and evaluation should aim. This view was based on a recent study in the UK, where patients made a distinction between being "very

satisfied” and “satisfied”, with the latter concept implying that care was not optimal and that something was missing [50]. Satisfied (or “medium satisfied”) users in the study described care as 'acceptable' or 'sufficient', in comparison with very satisfied users, who described services as 'better than average' or 'outstanding'. Likewise, the term “zone of tolerance” has been used for experiences of satisfaction, meaning that the services were perceived as neither strongly positive nor negative, but adequate or acceptable [51]. Within maternity care, Brown and colleagues argue for a cut-off where anything less than “very satisfied” should be considered unacceptable quality of maternity care [52].

## **1.5 EVALUATION OF MATERNITY CARE**

Below a presentation of issues specifically related to evaluations of maternity care, such as birth experience and feelings of control.

High quality maternity care is care provided with the best possible medical outcome that satisfies women and their families. This is an established goal in Sweden as well as internationally [15, 33]. The nature of the three principal episodes of care during childbirth, i.e. pregnancy (antenatal care), labour and birth (intrapartum care), and the first days with the newborn baby (postpartum care), differ in various ways. This thesis deals with two of these episodes: intrapartum care and postpartum care. Intrapartum care is characterised by being intense, dramatic and highly technological with numerous medical interventions; whereas postpartum care is rarely critical, acute or technological, and is based more on information and support. Postpartum care is often given lower priority in research and practice than intrapartum care [53-55]. A systematic literature review of midwifery care in the USA reported only three studies that focused on postpartum care out of a total of 140 [55]. This low level of interest in postpartum care is striking, especially considering that recent research has shown that mothers are more critical of postpartum care than of intrapartum care [56-58]. The explanations given for these differences include the possibility that midwives experience postpartum care as disruptive, difficult to provide and as a less exciting component of maternity care, and consequently also as less valued and prioritised [54, 59, 60].

### **1.5.1 Birth experience and control**

When trying to understand a woman’s reaction to healthcare in childbirth, both the care process during delivery, the birth outcome [44] as well as the multidimensional experience of birth itself (for example, pain and physical discomfort, negative emotional experience, fulfilment, joy and emotional adaptation) shape the experience [61]. As stated earlier, studies of satisfaction with childbirth rarely make a clear distinction between the childbirth experience and satisfaction with care [24, 44, 61-63]. What is clear, however, is that feelings of being in control during labour contribute to a woman’s positive experience of the birth and her later well-being [64].

A sense of control in a broader sense, involves both control over oneself and one’s emotions, for instance by tolerating pain without falling apart, as well as control over environmental conditions [3]. There is evidence that positive and negative mood states are linked to different types of events. Ongoing stress, for example, is strongly

associated with negative mood states, while social interaction is consistently related to positive mood [65]. Feelings of control may therefore also have an impact on women's experience of care received during labour and birth, and the environment in which it takes place. Therefore, assisting a woman to increase personal control during labour and birth has been emphasised as one very important task for caregivers [66].

In this context, internal control (also referred to as personal control) involves control of one's own body and behaviour [64]. Reported threats to internal control are pain, side effects of pain relief, lack of support, unfriendly behaviour of the caregiver, and difficulties to relax during labour [64, 67].

Caregivers have an influence on both internal and external control during birth. External control, characterised as control over what is done to oneself, has frequently been equated with involvement in decision-making [64]. This conceptualisation has been questioned, since it does not account for the possibility that involvement in decisions may increase as well as decrease a person's sense of control. Abdicating from decision-making to a trusted caregiver can, on occasion, give a greater sense of control [68], for instance when a patient is uncertain about the seriousness of the situation, has little knowledge of the condition, or if the situation is perceived as life threatening [41]. As suggested by Lazarus and Folkman (1984), individual preferences of desired degree of involvement can reflect different individual coping styles. Some persons prefer avoidance (since information and involvement in decisions increase their distress), while others prefer awareness or confrontation.

Green has described the link between care, control and involvement in decision-making as follows: "that one is being cared for by experts – is essential to feeling in control. The alternative feeling – that one is being cared for by people who do not know what they are doing – would almost certainly lead to a feeling of panic and loss of control in all but the most confident woman. Given this need to believe in the staff's expertise, the woman will nearly always follow the staff's advice, but the belief that she could have made a different choice enhances her sense of control" p. 52 [68]. The crucial point when discussing involvement in decision-making appears to be feeling in control of what caregivers do, and not making decisions per se [68]. In order for the individual to cope effectively when decision-making is necessary, it is important to seek and evaluate information [3].

### **1.5.1 Care during labour**

The research literature on intrapartum care has focused on areas such as continuity of care [69], caregiver support, involvement in decision-making, provision of information [70, 71], labour pain [72] and various models of care [56, 73]

Communication of information is another component of care that has repeatedly been reported as important for maternity care takers and patients [70, 74]. In the context of childbirth, the attitudes and behaviours of the caregivers seem to play a remarkably important role [75, 76]. Others have also found that negative assessments of maternity care have been linked to patients' experience of lack of support by the nurse or midwife during labour, lack of information, poor explanations and poor

participation in decision-making [75-77]. Hodnett's systematic review [63] of women's evaluations of their childbirth experience showed that the amount of support from caregivers, the quality of the caregiver-patient relationship and involvement in decision-making were the most important aspects of intrapartum care related to satisfaction, whereas continuity of care, medical interventions and the physical birth environment were less important.

One of the most significant factors described in earlier literature is interpersonal manner, which stands for how care providers interact personally with patients. It comprises factors such as humaneness, concern, courtesy, respect, reassurance and friendliness [1]. Giving information and providing the opportunity to be involved in decision-making represent aspects of the technical quality of care and the care provider's competence [63, 70].

Another dimension, physical environment, features the surroundings in which care is provided and comprises, for instance, facilities, equipment and atmosphere [1]. The physical environment has not been strongly associated with satisfaction with the childbirth experience as such, but it may have an impact on women's assessment of the care received. This aspect of intrapartum care has been paid great attention in modern societies over recent decades, and great efforts have been made to make the birth environment less clinical, and more calm and homelike. From the perspective of mothers, privacy, cleanliness, security, proper temperature regulation and facilities for visitors were recognised as important characteristics of the hospital environment [78].

### **1.5.2 Care after birth**

As stated earlier, the content of postpartum care is primarily based on information and support. It does not usually elicit the same degree of satisfaction as intrapartum care. In a state-wide survey of Australian mothers, around 70% rated their intrapartum care as very good, whereas the corresponding percentage for postpartum care was 50% [56].

The research literature on postpartum care has focused on areas such as length of hospital stay [79, 80], provision of information [81], malfunctioning organisation and stressful environment [82, 83], as well as issues related to maternal convenience and father involvement [82-84]. In the same way as the women themselves, midwives have also recognised that there is limited time available to spend with new mothers [85, 86], as well as lack of continuity and inadequate staffing levels for the provision of effective postnatal care [86, 87]. An Australian study identified considerable problems in connection with deficient organisational structures, such as extremely busy postnatal units, inadequate staffing arrangements (staff/patient ratios, staff shortage), inflexible length of stay and lack of opportunity for women to rest [86, 87].

Women's experience of the caregiver has been strongly associated with poor ratings of care in Australia [88, 89] and problems related to interpersonal communication was identified as one major issue in Scotland [90]. Breastfeeding, mothers' sensitivity to critical comments and opinions of others was explained by the fact that they felt

questioned as capable mothers [91], and by the high emotional distress caused by breastfeeding difficulties [92].

The significance of providing adequate information is well recognised, but also the difficulties in doing so [54, 75, 83]. For example, after the birth, lack of sleep may make new mothers less focused and less receptive of information [93]. Conflicting information is another documented dilemma [90]. Caregivers may not always be able to avoid conflicting information, but they can reduce confusion by helping mothers sort through and select what is relevant for them [93, 94]. In addition, fathers are more present on the postnatal ward than before, and they may have other information needs than the mothers [95].

## **1.6 ORIGIN OF THE PAPERS**

The starting point of the papers in this thesis will be briefly described in the following.

Maternity care affects almost the entire population, either as expectant and new parents or as being close to someone in that role. Maternity care consumers constitute a relatively young and healthy part of the population, and they are often more knowledgeable, and more aware of their “rights” than older patients. The internet has become a new arena where parents-to-be or new parents seek information and communicate with other parents. Of all patient groups, childbearing couples are probably the most vocal, which is reflected in the public debate, and public opinions, such as demonstrations against closing down local maternity units. They are often explicit about their wishes regarding pain relief during labour, mode of delivery and other issues. However, public opinion does not always reflect the views of all those affected by the services, and this was the reason why health politicians in, for instance, Australia [96, 97] approached researchers to survey the views of representative samples of childbearing women in order to provide information on which to base policies about maternity care. Similar surveys have been conducted in England [98]. The papers in this thesis aimed at investigating the views of a representative sample of childbearing women in Sweden in order to increase the understanding of how women rate and experience the quality of intrapartum and postpartum care. This was done on the grounds that the patient perspective and opinion are regarded as one important aspect of quality of care [9, 13, 14, 30, 33].

In Paper I the hypothesis was made that not being satisfied with intrapartum and postpartum care respectively was associated with a woman’s socio-demographic background, well-being during pregnancy, labour outcomes, and care organisation. A woman’s subjective assessment of aspects of care, such as caregiver support, involvement in decision-making, physical birth environment and time allocated to different tasks, was seen as inherent in the global rating of care as a whole. Furthermore, we hypothesised that women would be more satisfied with intrapartum than with postpartum care, since this was the case in other western countries with similar healthcare systems.

In Papers II and III an effort was made to further investigate the predominantly positive responses to the global question about satisfaction used in Paper I. The

rationale for this extended analysis was based on an interest in knowing whether a more detailed analysis, based on more than one overall measure, would provide a similarly positive outcome. The hypothesis was made that global measures limit the possibility to disclose variation, and that patient satisfaction is more than the sum of its specific aspects.

In study I, assessments of care were reported separately without investigating whether there might be groups of individuals who rated different dimensions of care in a similar way. To avoid loss of information about individual differences, a novel way of looking at the measures of care was used in Papers II and III. Here the focus was shifted from treating them as just single outcome variables to treating them as a scheme of dimensions. One question comprised whether groups of women responded to different dimensions of care in a similar way. A pattern-oriented approach provided a methodological framework for evaluation of multidimensional satisfaction-related data in these papers.

Finally, Paper IV aimed at complementing data from the quantitative data in Papers I and III, with qualitative information about new mothers' critical views on postpartum care, expressed in their own words. The assumption was made that women who were given the opportunity to write down any thoughts or comments they wished would provide additional information on untoward experiences of care, not covered by the previous studies.



## 2 AIMS

The overall aim of this thesis was to increase the understanding of women's evaluations of intrapartum and postpartum care. Evaluations of specific aspects of care, general assessments of intrapartum and postpartum care, and predictors of not being satisfied were investigated, as well as negative experiences of postpartum care, as expressed in women's own words.

The specific aims of the papers included in the thesis were:

- To investigate prevalence of satisfaction with intrapartum and postpartum care, and predictors for not being satisfied in relation to 1) a woman's socio-demographic background, 2) physical and emotional well-being in early pregnancy, 3) labour outcomes, 4) care organisation, and 5) a woman's subjective assessment of aspects of care (Paper I).
- To explore women's satisfaction with intrapartum care in relation to three different aspects: (1) interpersonal care; (2) information and involvement in decision-making; and (3) physical birth environment. More specifically, we aimed to establish whether typical clusters of women could be identified; and whether such clusters could be related to labour outcomes, to maternal experiences during labour, and to the individual's psychological health and social and demographic background (Paper II).
- To explore women's experiences of postpartum hospital care in relation to four different aspects: (1) interpersonal care; (2) time spent on physical check-ups; (3) time spent on information and support; and (4) time spent on assistance with breastfeeding. More specifically, we aimed to establish whether typical clusters of women could be identified; and whether such clusters could be related to specific outcomes of care, to the way in which care was organised, and to the individual's psychological health and social and demographic background (Paper III).
- To describe women's negative experiences of hospital postpartum care, expressed in women's own words, and to compare the characteristics of women who spontaneously made negative comments about postpartum care with those who did not (Paper IV).

## **3 METHODS**

### **3.1 STUDY DESIGN**

The four studies included in this thesis all derive from a prospective longitudinal study (the KUB study), the aim of which was to investigate women's experiences of pregnancy, childbirth and the first year with a newborn child from a wide range of perspectives including medical, psychological and social aspects [99-103]. A group of approximately 3000 Swedish-speaking women was surveyed at three time points: early pregnancy, two months and one year postpartum. The rationale for the time points when the questionnaires were sent out was based on the desire to obtain information as soon as possible after confirmation of pregnancy (first questionnaire); after a period of adaptation following the birth but still close enough to the event to allow vivid memory (2-month questionnaire); and after a reasonable time as a new parent (1-year questionnaire). The timing of measurement of postpartum care experiences is important, considering that strong emotional reactions after the birth and the adaptation to the new situation may influence women's responses [104]. In this study the questions relating to intrapartum and postpartum care were mainly asked two months after the birth, on the grounds that at this point the new mothers had some distance to the birth experience and the hospital stay, and had adapted somewhat to the new situation, yet they could still access the memory of the postpartum stay.

The four papers included in this thesis are all based on selected quantitative (Papers I-III) and qualitative (Paper IV) data from this population-based survey. Papers I-III were based on questions with predefined response alternatives from all three survey questionnaires. Paper IV was based on written comments in response to an open-ended question on the back of the questionnaire in the second and third survey. An overview of the four papers including participants, analyses, data, purpose and time of measurement are found in appendix 1-4.

### **3.2 RECRUITMENT AND SAMPLES**

#### **3.2.1 Recruitment**

Swedish-speaking women were recruited at their first booking visit to an antenatal clinic during a period of three weeks, evenly spread over one year (in May and September 1999 and January 2000). The rationale for selecting the three predefined recruitment weeks was that the number of deliveries varies over the year and this might have an impact on provision of care, e.g. differing staff-patient ratios and staff mix. The antenatal-care midwives gave women both written and oral information about the study and the confidentiality of collected data. Informed consent was obtained from each participant by means of a signed form that also contained the woman's contact details. Participants were informed that they could terminate their participation at any time if they chose to. After each recruitment week, the record of women who consented to participate was sent to the research team, and thereafter all contact with the participants was dealt with by the researchers.

By inviting all antenatal clinics in Sweden to participate in the recruitment of pregnant women, chances were maximised to achieve a representative national

sample of pregnant women. Oral and written information about the study was given to the midwife coordinators in Sweden (approximately 50 persons), to obstetricians in charge of antenatal care, and to all antenatal clinics. In total, 593 of the 608 (97%) antenatal clinics operating in Sweden during the defined time period participated in the recruitment. The non-participating clinics withdrew with reference to other ongoing studies (n=7) or too heavy a workload (n=8). Unfortunately, it was not possible to translate the questionnaires into languages other than Swedish, due to financial constraints.

The first questionnaire, with a covering letter (including the purpose of the study and contact details, i.e. e-mail addresses and telephone numbers to the research team) and a prepaid envelope, was sent out by post one to two weeks after the recruitment week. Non-respondents received two letters of reminder, and one additional questionnaire was sent with the last reminder letter.

According to data from the Swedish Medical Birth Register [105] and the antenatal-care midwives, approximately 5500 women were booked for antenatal care in Sweden during the three recruitment weeks. Recruitment and sample are presented in Figure 2. There were 4600 women who were eligible for the study, after excluding those who had a miscarriage (n=275), those who attended the non-participating clinics (n=75) and those who did not speak Swedish or were not approached for unknown reasons (n=550). Altogether 3455 women gave their consent to participate in the study and 3113 answered at least one of the three questionnaires. The number of respondents to the first questionnaire was 3061, to the second 2762 and to the third 2563.

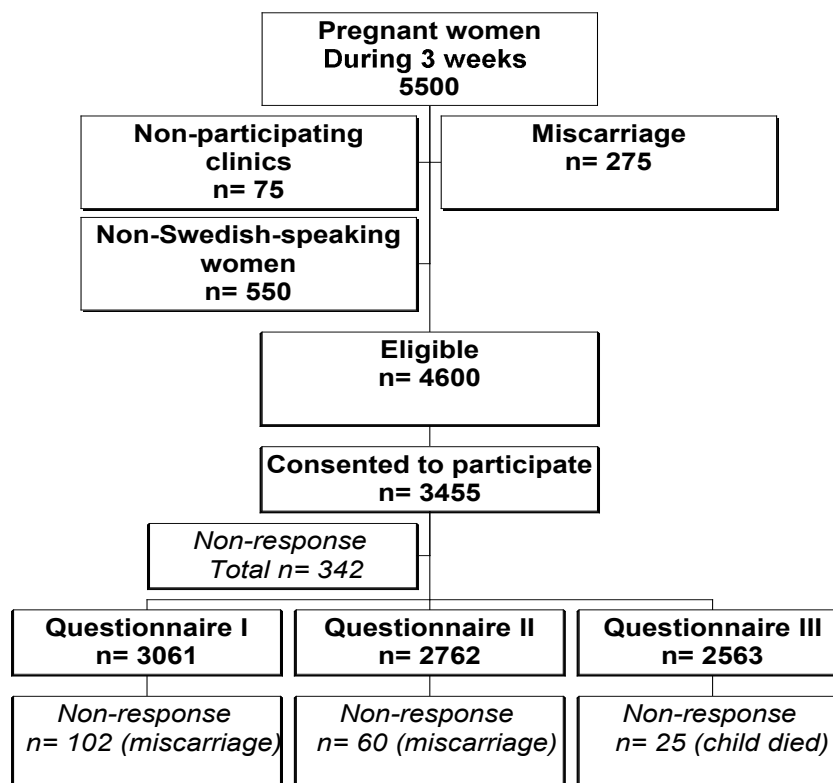


Figure 2. Recruitment and sample

### 3.2.2 Sample

Table 1 gives a summary of descriptive and clinical outcome data, including the basic sample characteristics of the 3061 women who completed the first questionnaire and of all 84,729 women who gave birth in Sweden in 1999, according to the Swedish Medical Birth Register [106]. Where data were available in both groups, no major differences were found, with the exception of country of birth (Swedish-born: 90% in the study sample vs. 83% in Sweden as a whole). A minor difference were found regarding smoking 10% of women in our sample were smokers compared with 13% in the total 1999 birth cohort. It should be noted, however, that the respondents to the KUB study were not removed from the Swedish birth cohort of 1999 when pursuing the comparison analyses. In all, 2418 women had a vaginal delivery (78%), and 430 (14%) were delivered by caesarean section (CS), and of these women, 218 (8% of all deliveries) experienced an emergency CS.

In Paper I the samples were based on responses to a question about the experience of intrapartum care (n=2686; 58% of the 4600 women eligible for the study) and postpartum care (n=2630; 57% of the 4600 women eligible for the study) asked in the second questionnaire. Paper II included the 2605 women (57% of the 4600 women eligible for the study) who answered the specific questions about satisfaction with intrapartum care. In Paper III, 2338 women answered the specific questions about postpartum care, constituting 51% of those who were eligible for the study. In Paper IV, the open-ended question was filled in by 639 (23%) women at two months postpartum, and by 475 (19%) at one year (The percentage is based on those who returned the respective questionnaire, see Figure 3). In total, 192 women commented on their postpartum experience: a minority with positive statements (n=41), and a majority with negative statements (n=150). Of the 150 women with a negative comment, who constituted the study group in Paper IV, 30 also mentioned positive aspects of postpartum care. Two women responded with a negative comment at both time point 2 and time point 3, and the texts of both their comments were analysed as one. In this way the risk of duplicating the same concern was avoided.

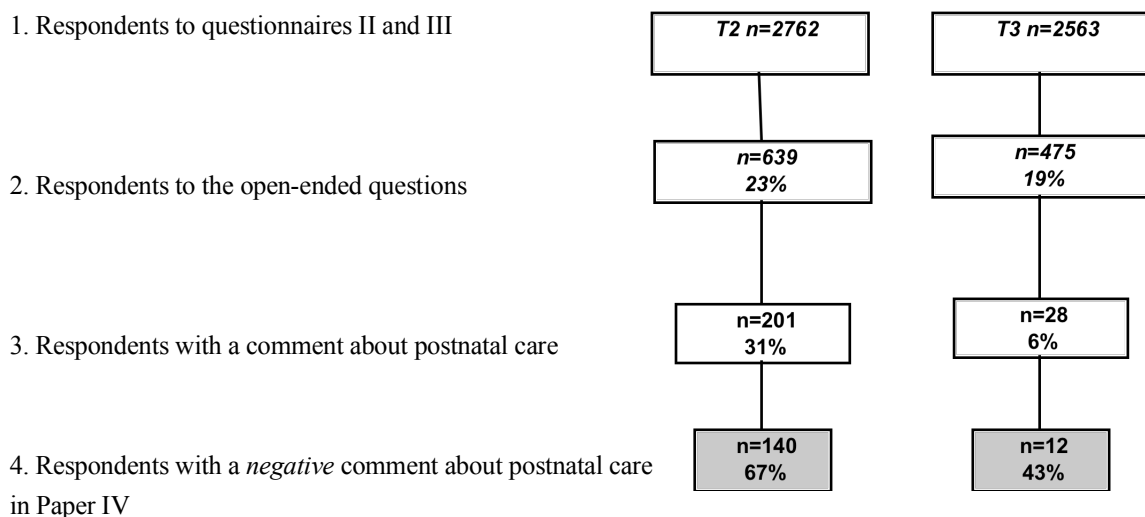


Figure 3. Number of participants in the KUB study in total, and number of respondents to the open-ended questions asked at two months (T2) and one year (T3) after the birth (Paper IV). Note: Total n=150 (2 women responded at both time points) with a negative comment.

*Table 1. Socio-demographic, labour and care data for women in the KUB study (n=3061) and for a birth cohort of all women who gave birth in Sweden in 1999 (n= 84 729).*

		KUB	All births in Sweden 1999
		N = 3061	N = 84 729
		%	%
Age (years)	<25	15	16
	25-35	75	72
	>35	10	12
Parity	Primipara	43	42
	Multipara	57	58
Smoking	No	89	87
	Yes	11	13
Marital status	Married/cohabiting	95	95
	Single/other	5	5
Country of birth	Sweden	90	83
	Other than Sweden	10	17
Mode of delivery	Normal vaginal	79	79
	Vacuum extraction or forceps	7	7
	Caesarean section	14	14
Education	9-year compulsory school	7	
	Upper secondary school	55	
	College/ University	38	
Newborn transfer to NEO	No	89	
	Yes	11	
Hospital size (deliveries/ year)	<500	4	
	500-999	12	
	1000-1999	28	
	2000-2999	20	
	3000-3999	21	
	>4000	15	
Length of postpartum stay	<1 day	10	
	2 days	21	
	3 days	25	
	4 days	22	
	>5 days	22	
Model of postpartum care	Standard pp care	51	
	Combined ip/pp care	8	
	Family pp care	23	
	Risk pp care	3	
	Hotel pp care	10	
	Other	5	
Talked through the birth experience	Yes	52	
	No	48	

### 3.3 DATA COLLECTION

The data were collected prospectively between 1999 and 2002, at three time points, i.e. in early pregnancy (average 16 gestational weeks), two months postpartum (average 10 weeks), and one year postpartum (average 1 year and 1 month). Data from all three time points, as well as data from the Swedish Medical Birth Register [105], were utilised for the purpose of this thesis.

### 3.3.1 Questionnaires

The questions used in the KUB study derived from various similar projects surveying childbearing women with regard to their experiences of birth and maternity care [52, 70, 107-114]. At each time point the women responded to an extensive questionnaire including single-item questions and instruments. The variable on hospital size (defined by the number of deliveries per year) was collected from national statistics [106], and not from the questionnaire. The questionnaires were pilot-tested with a smaller sample, after which minor adjustments were made [99, 101].

### 3.3.2 Instruments and questions

#### 3.3.2.1 *Early pregnancy*

From the first questionnaire, social, demographic and obstetric background variables were used (i.e. age, education, employment, smoking during pregnancy, marital status, country of birth, native language, parity, experience of support from partner during pregnancy, timing of pregnancy) (Papers I-IV). Questions about physical and psychological health and well-being were also taken from the early pregnancy questionnaire. Physical health was measured by an index based on 7 items, describing symptoms during the previous week (headache, neck and shoulder pain, low back pain, stomach ache, dysuria, sleeping problems and fatigue) on a 6-point rating scale ranging from 0 (no problems at all) to 5 (severe problems). The total sum of scores was calculated for each woman (Paper I).

The instruments used to measure psychological health were as follows:

- a. The Swedish version of the Cambridge Worry Scale, which includes 19 items of common worries during pregnancy [114]. Responses were given on a 6-point scale ranging from 0 ('not a worry') to 5 ('extremely worried'). From this scale, 3 single items were used in Paper I.
- b. The Edinburgh Postnatal Depression Scale (EPDS) [109], translated into Swedish by Wickberg and Hwang [110]. Depressive symptoms were assessed by 10 items measuring intensity of depressive symptoms during the past week. Responses were made on a 4-point scale with different anchoring phrases. All items were summed into a scale with a total range from 0 to 30 (Papers I-III).
- c. The short version of the Sense of Coherence scale (SOC-13), which includes 13 items that quantify three components (comprehensibility, manageability, meaningfulness) that together assess sense of coherence [111, 112]. Responses were made on a 7-point scale with two anchoring phrases that differed between items. All items were summed into a scale with a total range from 13 to 91 (Papers I-III).

### 3.3.2.2 *Two months postpartum*

#### 3.3.2.2.1 Variables related to intrapartum and postpartum care

These variables were about specific aspects of intra- and postpartum care as well as global measures of general satisfaction with care (Papers I-IV). Some of the questions of intrapartum and postpartum care were similar (i.e. a) the global assessments, b) interpersonal care and c) assessments of emotional and medical aspects) and the others differed. First a description of the similar questions is presented, and thereafter there is a separate presentation of questions concerning intrapartum and postpartum care. The dimensions of satisfaction with intrapartum and postpartum care used in Papers II and III were theoretically based constructions, and short descriptions of these are provided in Appendixes 2 and 3 under the heading “Data used”. In Paper II three indexes were created and in Paper III four indexes were made. The items and indexes are presented below.

The **global questions** were worded ‘What is your comprehensive assessment of intrapartum care?’ and ‘What is your comprehensive assessment of postpartum care?’ and the response alternatives were given on a 5-point scale (1 ‘very positive’, 2 ‘positive’, 3 ‘neither positive nor negative’, 4 ‘negative’ and 5 ‘very negative’). In this thesis, these response alternatives are used as equivalent to ‘very satisfied’, ‘satisfied’, ‘neither satisfied nor dissatisfied’, ‘dissatisfied’ and ‘very dissatisfied’, after having conducted a factor analysis, which suggested that the global question about intrapartum care measured the underlying, construct “satisfaction”.

Evaluation of satisfaction/dissatisfaction with **interpersonal manner**, representing “interpersonal care” by the midwife who provided most of the care during the hospital stay, was measured with an index. Interpersonal care was defined by the woman’s assessments of the midwife as being calm, supportive, encouraging, respectful, reassuring (creating confidence) and attentive to the woman’s needs (sensitive) (6 items) (Papers II and III). In Paper III one additional item assessing sensitivity to the baby’s needs was used. The response alternatives were: ‘does not apply at all’, ‘applies somewhat’, ‘applies’, and ‘cannot say’. The fourth response alternative, ‘cannot say’, was excluded in the analysis and treated as internal dropout.

For **intrapartum care** the following seven **specific aspects** of satisfaction were assessed by one item for each aspect:

- 1) Information about progress of labour
- 2) Opportunity to participate in decisions
- 3) Support by midwife
- 4) Support by doctor
- 5) Birth environment (furnishing, light, sound)
- 6) Emotional aspects of intrapartum care
- 7) Medical aspects of intrapartum care

The response format for the items was presented as a 5-point scale (1 ‘very satisfied’, 2 ‘satisfied’, 3 ‘neither satisfied nor dissatisfied’, 4 ‘dissatisfied’ and 5 ‘very dissatisfied’) (Papers I-II).

In Paper II satisfaction with intrapartum care was studied along three distinct dimensions: a) interpersonal care (6 items, see interpersonal manner page 28), b) information and involvement in decision-making (2 items, see intrapartum care: aspects 1 and 2) and c) physical birth environment (1 item, see intrapartum care: aspect 5) (See page 28).

**Postpartum care** was measured by items addressing the following ten **specific aspects** (aspect 1 and 2 are similar to intrapartum care, and 3-10 are dissimilar):

- 1) Emotional aspects of postpartum care
- 2) Medical aspects of postpartum care

The response format for these items was presented as a 5-point scale (1 'very satisfied', 2 'satisfied', 3 'neither satisfied nor dissatisfied', 4 'dissatisfied' and 5 'very dissatisfied') (Paper I).

- 3) Time allocated to checking baby's health (1 item)
- 4) Time allocated to checking my own health (1 item)
- 5) Time allocated to information/dialogue about
  - a. Physical adaptation (1 item)
  - b. Emotional adaptation (1 item)
  - c. Caring for the baby (1 item)
  - d. Sexual issues (1 item)
- 6) Time allocated to supportive conversation (1 item)
- 7) Time allocated to encouragement (1 item)
- 8) Time allocated to mother's own questions or concerns (1 item)
- 9) Time allocated to information or discussion about breastfeeding (1 item)
- 10) Time allocated to hands-on support in breastfeeding (1 item)

The response format for the items was: 1 'too little', 2 'appropriate' and 3 'too much' (Papers I-III)

To investigate women's experiences of postpartum hospital care in Paper III the following four dimensions were studied: a) interpersonal care (7 items, see interpersonal manner page 28), b) time spent on physical check-ups (2 items, see postpartum care 3 and 4), c) time spent on information and support (7 items, see postpartum care 5, 6, 7 and 8), and d) time spent on assistance with breastfeeding (2 items, see postpartum care 9 and 10). The first dimension of interpersonal care resembles the one for intrapartum care, except for the item regarding sensitivity to the baby's needs mentioned earlier.

As stated earlier, the three dimensions in Paper III that related to whether a sufficient amount of time was spent during the postpartum stay had the response alternatives: 'too little' or 'too much' time. In Paper III, 'too little' or 'too much' were merged into 'inappropriate time'. In all cases except one (relating to breastfeeding), 'inappropriate time' meant 'too little time'.



#### 3.3.2.2.2 Associated variables

Labour outcomes (i.e. mode of delivery (Papers I-IV), obstetric analgesia, induction, newborn transfer to neonatal unit after birth, having met birth-attending midwife prior to labour (Paper I), having talked through the birth experience postpartum (Papers I-IV)) and items measuring feelings during labour (Paper II) were taken from the second questionnaire.

Feelings during labour were categorised according to the occurrence of general positive and negative affect, according to Watson and Clarks' two-dimensional model of mood: the positive and negative affect schedule [65]. Negative feelings during labour included an index for fear (2 items) and one for sadness (2 items), and positive feelings included an index for happiness (2 items), one for self-assurance (3 items) and one for attentiveness (2 items). Responses were given on a 5-point scale (1 'not at all', 2 'a short time', 3 'half the time', 4 'most of the time', 5 'all of the time') (Paper II).

#### 3.3.2.2.3 Open-ended question

For the purpose of Paper IV, we used women's responses when presented with the following question at the end of the questionnaire:

*"If you like, you can write down your thoughts and reflections here."*

#### 3.3.2.3 *One year postpartum*

The following variables were taken from the third questionnaire: newborn transfer to neonatal unit (Papers II-IV), number of home visits, domiciliary visitor and model of postpartum care (Papers I, III, IV).

#### 3.3.2.3.1 Open-ended question

For the purpose of Paper IV, we used women's responses when presented with the following question at the end of the questionnaire:

*"If you want to add something, please write your thoughts and opinions below."*

### **3.3.3 Validity and reliability**

#### 3.3.3.1 *Content validity of survey questions*

Most of the questions used in this study were adopted from previously used questionnaires, applied in surveys of recent mothers' experiences of maternity care [52, 115], from randomised controlled trials comparing alternative models with standard maternity care [58, 107, 116], and from validated instruments [109-114]. The Australian surveys of recent mothers, from which several questions in the KUB questionnaire originate, tested the content of variables by extensive consultation with consumers and providers in order to create a framework for investigating issues of importance to women [52].

The longitudinal design of this study made it possible to examine answers to an open-ended question at the end of the first questionnaire, where respondents were encouraged to write down areas of importance to them regarding subsequent maternity care. We found that women's wishes to a great extent focused on the dimensions of intra- and postpartum care included in the two-month and one-year questionnaires. However, we also identified limitations of the survey questionnaire and identified relevant issues that we had not covered. Additional areas that would have been extremely useful to investigate were: accessibility, convenience, flexibility and availability of care. Moreover, the importance of giving women the chance to evaluate more than one staff member (when appropriate), and whether staff members were experienced, trustworthy and responsible, was mentioned spontaneously by the women. Areas that some respondents wished to answer in more detail related to caesarean section, breastfeeding, siblings, early discharge and how care could be improved. Financial aspects of maternity care did not seem to be a problem for Swedish women, and this is explained by the fact that costs are covered via the state budget.

Women's spontaneous remarks on the pros and cons of filling in the survey questions ranged from expressing great appreciation of having been given the opportunity to participate, to very negative comments, where women mentioned feeling negatively influenced by the content of the questionnaires. Some participants wrote that the questions were well formulated, interesting, helpful, important, and that filling in the questionnaire had provided a good opportunity to work through their feelings. Negative remarks concerned the survey being too long, exhausting and difficult to complete due to negatively or poorly formulated questions. Certain questions were also described as hard to interpret with incomplete or unsuitable response alternatives. In addition, some respondents mentioned having difficulties in remembering, and in separating this pregnancy and birth from others.

Circumstances mentioned as making the answering of questions especially difficult were experiences of different forms of complications such as caesarean section, adverse infant outcome, very short labour, and being single. In general, internal dropout was low in questions related to intra- and postpartum care, with one exception, i.e. assessment of the midwife's competence regarding medical, technical and emotional issues (3 items). This dimension was excluded in the analysis because of the large number of women who used the response alternative: 'cannot evaluate this'.

### *3.3.3.2 Internal consistency of scale evaluations*

To evaluate the internal consistency of the scales, Cronbach's alpha values were calculated. Internal consistency was 0.85 for the Edinburgh Postnatal Depression Scale (EPDS), and 0.84 for the Sense of Coherence Scale (SOC-13). Furthermore, Cronbach's alpha values for variables assessing feelings during delivery were as follows: 0.86 for fear, 0.78 for sadness, 0.86 for happiness, 0.83 for self-assurance and 0.60 for attentiveness (Paper II). Internal consistencies for the scales related to intrapartum care were: Interpersonal care 0.94, and Information and decision-making 0.73. Finally, internal consistency for the scales of postpartum care were: Interpersonal care 0.94, Checking infant and maternal health 0.48, Information and support 0.86, and Breastfeeding 0.79.

### 3.3.3.3 Factorial validity of scales

Confirmatory factor analysis [117, 118] was used to evaluate the measurement models of the intra- and postpartum care variables used in Papers II and III. These analyses included the items used to generate the variables of care dimensions.

The hypothesised measurement model, which defines a simple structure (each item is only allowed to load on one unidimensional factor) and uncorrelated error terms, was estimated using polychoric correlations and Robust Maximum Likelihood. Different indicators, each stressing important aspects of the measurement models, were used to evaluate model fit, i.e. absolute fit (i.e. the Standardised Root Mean Square Residual (SRMR)), parsimony fit (i.e. Root Mean Square Error of Approximation (RMSEA)) and comparative fit (Comparative Fit Index (CFI)). Generally accepted cut-off criteria for these indicators are for absolute fit: SRMR<0.08, for parsimony fit RMSEA<0.06 and comparative fit CFI>0.95. Following the recommended practice, the absolute fit indicated by Satorra-Bentler Scaled chi-square was not used as a measure of model fit, as it is biased when applied on large samples.

The measurement model of the three dimensions of intrapartum care was found to have good model fit, with a chi-square value of 94.99 ( $p=0.001$ ),  $df=25$ , a Comparative Fit Index (CFI) of 0.998, Standardised Root Mean Square Residual (SRMR) of 0.030 and a RMSEA of 0.035. The measurement model also indicated consistently high item-factor loadings (Table 2), and confidence intervals of factor correlations were well below unity. Pearson product moment correlations between the three dimensions of satisfaction ranged between 0.14 and 0.38.

*Table 2. Confirmatory factor analysis intrapartum care. Evaluation of the measurement model consisting of the three cluster variables, i.e. interpersonal care (dimension 1, Items 1-6) and information and decision-making (dimension 2, Items 7-8), and birth environment (dimension 3, Item 9).*

Item 1-8	Factor loadings Interpersonal care	Factor loadings Information/ Decision-making	Factor loadings Birth environment
1	0.886	*	*
2	0.977	*	*
3	0.972	*	*
4	0.953	*	*
5	0.953	*	*
6	0.920	*	*
7	*	0.763	*
8	*	0.862	*
9	*	*	1.000**

\*fixed to 0; \*\*fixed to 1

Good model fit was found for the measurement model consisting of the four variables of postpartum care, with a chi-square value of 624.44 ( $p=0.001$ ),  $df=129$ , a Comparative Fit Index (CFI) of 0.94, Standardised Root Mean Square Residual (SRMR) of 0.058 and a RMSEA of 0.044. Consistently high proposed-item factor loadings were also found (Table 3) and confidence intervals of factor correlations

were well below unity. The Pearson product moment correlations among the four variables ranged from 0.33 to 0.51.

*Table 3. Confirmatory factor analysis postpartum care  
Evaluation of the measurement model consisting of the four cluster variables, i.e. interpersonal care (dimension 1, Item 1-7), checking infant and maternal health (dimension 2, Item 8-9), information and support (dimension 3, Item 10-16), and breastfeeding (dimension 4, Item 17-18).*

Item 1-8	Factor loadings Interpersonal care	Factor loadings Checking infant and maternal health	Factor loadings Information and support	Factor loadings Breastfeeding
1	0.867	*	*	*
2	0.966	*	*	*
3	0.964	*	*	*
4	0.938	*	*	*
5	0.952	*	*	*
6	0.915	*	*	*
7	0.856	*	*	*
8	*	0.613	*	*
9	*	0.793	*	*
10	*	*	0.684	*
11	*	*	0.810	*
12	*	*	0.677	*
13	*	*	0.725	*
14	*	*	0.941	*
15	*	*	0.809	*
16	*	*	0.860	*
17	*	*	*	0.958
18	*	*	*	0.901

\*fixed to 0

Finally, the measurement model regarding feelings during labour, that were categorised according to the positive and negative affect schedule [65], was also evaluated using confirmatory factor analysis. Negative feelings during labour included fear (2 items) and sadness (2 items); and positive ones comprised happiness (2 items), self-assurance (3 items) and attentiveness (2 items). Responses were made on a 5-point scale (1 ‘not at all’, 2 ‘most of the time’, 3 ‘half the time’, 4 ‘a short time’, 5 ‘all of the time’) (Paper II).

#### 3.3.3.4 Quality indicators of the qualitative study

Various indications of credibility of findings in a qualitative content analysis can be addressed. To facilitate understanding in this study, variation in participants’ background characteristics, labour outcomes and experiences of care enhanced the possibility of shedding light on what women found negative about their postpartum hospital care. Transferability of results was limited considering the self-selection of the sample. However, the context of the present sample was well defined by representing a sub-sample of the larger national sample “KUB”. The KUB sample was representative of all women who gave birth in Sweden in 1999, except for the exclusion of non-Swedish-speaking women. These comparisons suggest that the sample was slightly skewed towards women who were more integrated into Swedish society. The study sample undoubtedly represents no more than a minority of the

KUB sample, but nevertheless their comments have identified problematic areas of postpartum care. Furthermore, this minority differs very little from the KUB sample on a wide range of other characteristics compared.

In the content analysis, the fact that we constantly compared statements from the comments and moved back and forth between the text and category scheme, contributed to the refinement and validation of the classification system. The procedure of condensing meaning units was limited, since the original statements were relatively condensed. Due to the inherent complexity of experiences of care, certain comments could be classified to more than one category. However, the overlap of categories was discussed between the authors and kept to a minimum. In order to justify the findings and verify the categories, the descriptions of care were kept close to the original comments.

### **3.4 DATA ANALYSES**

In Papers I-III, quantitative analyses were performed, and in Paper IV analyses were mainly qualitative. An overview of participants, type of analyses, data used, purpose, and time of measurement in the four papers is presented in Appendixes 1-4.

#### **3.4.1 Analyses (Paper I)**

Descriptions of participants, type of analyses, data, purpose and time of measurement used for Paper I, are summarised in Appendix 1.

Prevalence of satisfaction/dissatisfaction with care was illustrated by women's overall assessments of intra- and postpartum care using descriptive statistics. In order to investigate predictors of not being satisfied with care, logistic regression analyses were applied [119-121]. With logistic regression analysis, models were created to investigate the association between dissatisfaction with care and a number of independent variables. The associations between independent variables and dissatisfaction were expressed by odds ratios (OR) with 95% confidence intervals (CI).

Dependent variables of satisfaction with care constituted women's assessment of their overall experience of intrapartum and postpartum care, made at two months postpartum. The variables were dichotomised in the following way for satisfaction/dissatisfaction with intrapartum and postpartum care respectively: satisfaction represented the response alternatives 'very positive and positive', and dissatisfaction 'neither positive nor negative, negative and very negative'. Independent variables measured in early pregnancy were about women's socio-demographic background and physical and emotional well-being (Appendix 1). The cut-off 14.5 was used on the Edinburgh Postnatal Depression Scale, as suggested when used during pregnancy [109]. A range of questions that related to labour outcomes, care organisation and specific details of the respective episodes of care, were also used (Appendix 1). All the independent variables were categorised and used in the logistic regression analysis. These analyses were performed in five different models related to the aims of the study.

### 3.4.2 Analyses (Papers II-III)

Descriptions of participants, type of analyses, data, purpose and time of measurement used for Papers II and III are summarised in Appendixes 2 and 3. In Papers II and III the aim was to increase the understanding of Paper I by studying several dimensions of care simultaneously. Given the multidimensional nature of patient satisfaction it was assumed that satisfaction with care was more than the sum of specific aspects, and broader than a general assessment of care. Therefore the methodological aim of studies II and III was to contrast satisfaction ratings at group levels (i.e. studying each dimension separately) by considering assessments of different aspects of care simultaneously. This approach captures individual differences on different variables concurrently [122], and provides an analysis of women with similar evaluations of care. More specifically, it was hypothesised that the intra- and postpartum care dimensions each represented separate parts in a scheme of aspects that would increase the understanding of care experiences if analysed together.

By studying one person's assessments on several dimensions of care, an individual profile of satisfaction was created. The numbers of possible profiles were assumed to be limited [122], and the subsequent step was therefore to find out whether women with similar evaluations of care could be identified. In order to develop a classification of profiles, cluster analysis was performed [4]. The similarity measure computed to find types, and to estimate the resemblance between two profiles, was the averaged Euclidean distance. Euclidean distance measures similarity both of form and level (as compared with correlation, where only form is measured). A successful classification is characterised by profiles that are similar within groups, and at the same time dissimilar between groups. In sum, the purpose was to investigate whether a valid classification of individual patterns of satisfaction with intra- and postpartum care could be identified, and in this way, give details of how, and in how many ways, care profiles occur in a sample of recent mothers. It was believed that a comparison of the prevalence of satisfaction/dissatisfaction between the cluster analysis and the overall rating of care would be valuable.

Analyses used to compare clusters were called comparative analysis with external or explanatory variables (i.e. variables not used in the primary cluster construction) [4, 122, 123]. External variables or correlates considered relevant to the profiles of satisfaction with care, covered background characteristics, psychological health and labour outcomes. The aim of this analysis was to "validate" or find out whether individuals who had similar profiles of satisfaction with care also had other common characteristics with respect to the selected external variables. It would be best if external variables could differentiate between clusters and also describe individuals within clusters. One set of variables, for example social, psychological and demographic background, was used in order to describe the individuals within a cluster. The purpose here was to find out whether individuals were alike in other ways (i.e. variables) than in their evaluations of care.

#### 3.4.2.1 Cluster analysis

As stated earlier, for the purpose of identifying homogeneous clusters of individuals characterised by similar patterns of evaluations of intrapartum and postpartum care,

cluster analytic techniques were applied. The cluster analysis was performed using Ward's method with the three cluster variables addressing three aspects of intrapartum care, and four relating to postpartum care. For each data set, preparatory analyses were carried out prior to conducting the cluster analyses. Internal dropout was handled by accepting a limited number of missing values when the items were summarised into variables [124]. Ward's method is a hierarchical agglomerative clustering technique, which has been proved to reach a well functioning classification, i.e. to create the smallest amount of variance within clusters, and thereby generate a combination of clusters that result in a minimum increase in the "error sum of squares"(ESS) [122, 123, 125]. In all analyses, Ward's method was followed by an established rationale for obtaining a well-functioning and trustworthy classification [122, 126]. For instance, cluster solutions were carefully chosen which had high "explained error sum of squares" (EESS), and replication analysis (analogous to a cross-validation procedure in regression analysis) was performed to measure the stability of the clustering in the data. In other words, to verify stability and to ensure that cluster profiles were not merely formatted by chance, a validation of the chosen cluster solution was carried out by replication using the split-half method [123]. In short, two split-half samples were randomly obtained and each was cluster-analysed. The individuals of one sample were then assigned to the other sample's clusters using nearest centroid assignment. A measure of agreement, adjusted (corrected) rand index [127], was then computed between the two classifications. High values for this index indicate high stability. For a more detailed description of this replication analysis, see Milligan [126]. The results of the cluster analysis were tested against a null hypothesis of no relationships in the data. This was achieved by using a simulation procedure where the cluster analysis was repeated a number of times on a partially artificial data set, obtained by modifying the original data set randomly, while keeping constant marginal frequencies for the included variables [122].

#### 3.4.2.2 *Comparative analysis*

Explanatory variables used to characterise the cluster profiles in Papers II and III were chosen on the grounds that they were of relevance in relation to intra- or postpartum care (Appendixes 2 and 3). As stated earlier, they were selected from the following domains: social and demographic background, psychological health, labour, maternal experiences during labour (experiences of pain, positive and negative feelings, only Paper II, Appendix 2) and issues concerning how care was organised (i.e. hospital size, model of postpartum care, length of postpartum stay, number of home visits, type of domiciliary visitor, opportunity to talk through the birth experience (only Paper III, Appendix 3). Additionally, the cluster profiles were "validated" with an overall measure of satisfaction with intra- and postpartum care. The timing for measurement of explanatory variables is presented in Appendixes 2 and 3.

To compare the obtained clusters with regard to extraneous categorical variables, exact analyses of single cells in a contingency table using EXACON were performed (exact 1-tailed hypergeometric test  $P < 0.05$ ) [128]. In a given cell, the exact probability of the difference between the observed and the expected frequencies was computed. If the observed frequency was significantly larger than expected, the cell was called a "type". In the opposite case, i.e. when the expected frequency was larger

than the one observed, an “antitype” was said to occur for that cell (see also [122]). To compare the different clusters with regard to the continuous variables (i.e. psychological health in early pregnancy, maternal experiences during labour and general satisfaction with care), one-way analyses of variance (ANOVAs) with post-hoc tests were performed [129].

### **3.4.3 Analyses (Paper IV)**

Paper IV included qualitative analyses of descriptions of negative experiences of care from a sub-sample of the KUB study participants. An overview of Paper IV participants, type of analyses, data used, purpose and time of measurement, is presented in Appendix 4.

Figure 3 shows the number of participants in the KUB study, and the number of respondents to the open-ended questions asked at two months (T2) and one year (T3) after the birth. The response rate to the first question was 23%, and to the second 19%, of those who returned the respective questionnaire. Handwritten comments in response to the open-ended question on the back of the questionnaire at two months postpartum were used. Responses to the open-ended question were read and sorted through, and the 152 comments related to negative experiences of postpartum care were identified and further analysed with content analysis. Descriptive statistics were used to compare the characteristics of the sub-sample who responded with a negative comment (n=150) with the remaining participants in the KUB (n=2633) study where no such comment was made (Appendix 4). These comparisons included socio-demographic background, labour outcomes, care organisation and overall assessment of postpartum care. Regarding categorical variables, chi-square tests and t-tests were carried out to compare groups with regard to proportions and continuous variables respectively [129].

#### *3.4.3.1 Content analysis*

First, the 693 handwritten comments in response to the open-ended question at two months, and 475 responses at one year, (Figure 3) were read through and the ones not related to postpartum care were excluded. Secondly, the comments relating to postpartum care were typed, read through and coded. Codes were collapsed into categories and statements relating to the same categories were brought together. The text was then sorted into two main content areas, i.e. descriptions of negative and positive issues about care regarding the index (KUB) baby. For the purpose of this study the positive comments were excluded. Negative statements were read through several times by the researcher, according to the technique of content analysis [130, 131].

Statements were defined as negative when they described the absence of expected care, such as lack of follow-up, help, information and support. Statements alluding to how care was given, including poor or unsympathetic manner of the caregiver, were also defined as negative; i.e., both descriptions of what was missing or wrong, and negative experiences of the way it was given, were included. Statements were defined as positive when women praised the care they were given for fulfilling their needs or expectations. This was, for example, expressed by descriptions of care being helpful,



supportive, encouraging or informative. Also, statements that described care as being given in a pleasant, reassuring or supportive manner were defined as positive. The majority of statements defined as positive were of a general nature, including explicit descriptions, such as “care was good” or “care given on the mother’s terms”.

Six category headings were generated from the data, mainly referring to the descriptive level of content in the text (i.e. the manifest content). The second author verified the accuracy of the coding and category system throughout the entire process, and after discussion modifications were made.

### **3.4.4 Statistical programs**

The structural equation modelling analyses with ordinal variables were performed using LISREL [117]. All of the cluster analyses were conducted using procedures in SLEIPNER 2.0 [132]. SPSS version 14.0 and 15.0 was used for statistical all other analyses [133].

## **3.5 ETICAL CONSIDERATIONS**

Endeavours were made to avoid participation in this study causing harm or inconvenience to respondents. Informed consent was obtained from all study participants. To minimise the risk of distress, oral and written information was given, as well as a covering letter accompanying each questionnaire. As stated earlier, the covering letters described the purpose of the study and gave details of how to contact the research team. The research team (consisting of midwives) was available to answer questions and concerns by phone, personal beepers and e-mail. When appropriate, women were helped with referral to suitable healthcare professionals. Comments regarding filling in the questionnaire indicate that it was a very time-consuming and, for some of the women, tedious task. On the other hand, remarks were also often positive and showed gratitude for the opportunity to participate, which was also expressed during telephone contacts with the research team.

In the cases where participating women lost their child before, during or after delivery, and had not notified the research team of their withdrawal from the study, a second questionnaire was sent out. Since these women could not be identified via records in the Swedish Medical Birth Register due to delays in registration, the following text was added to the cover letter of the second questionnaire:

*“ Of all the women who answered the first questionnaire in the KUB project, there may be some who have lost their child, during pregnancy or after the birth, and others whose baby is unhealthy. If you belong to this group we would like to express our sympathy and are very sorry if this letter causes further pain. However, your experiences are most valuable for the study, and we would be very grateful to receive your answers. Leave the questions that are not applicable unanswered and please make a note of what has happened to your child. ”*

The third questionnaire was not sent out to women who had had an infant who had died, who were not registered for delivery in the Swedish Medical Birth Register, or who did not answer the first or second questionnaire.

Approval for the study was received from the regional Research and Ethics Committee at Karolinska Institutet, Sweden (Dnr 98-358) after having informed all

other Swedish Ethics Committees about the study. The National Board of Health and Welfare approved use of data from the Medical Birth Register.

## 4 RESULTS

The results in this thesis all involve women's own assessments of care received during labour and birth and the postpartum stay in hospital. Here, results from all four papers will be presented. The questions and issues that arose during preparations of Paper I led to the three subsequent studies: II, III and IV.

With the exception of a few antenatal clinics, maternity care in Sweden is part of the public sector and financed through the national taxation system. Over 99% of women give birth in hospital, and a total of 53 hospitals provided intrapartum and postpartum care at the time of data collection. The average length of hospital stay after a normal vaginal birth was around 3 days in the KUB sample. Various models of postpartum care were available during this period: standard postpartum care at a postpartum ward in the hospital (approximately 50% of the women); a family-oriented ward in the hospital where the father could stay overnight (approximately 25%); a hotel located in close proximity to the labour ward (approximately 10%); and a combined delivery and postpartum ward, usually in smaller hospitals (approximately 10%). Other options were: a high-risk postpartum ward; an in-hospital birth centre; and discharge directly from the delivery ward. Approximately 5% of the women used one of these alternatives. Domiciliary visits were only made in a few places.

### 4.1 PAPER I

One out of four new mothers was less than satisfied with postpartum care, and only one out of ten with intrapartum care (Figure 4). No more than 2.6% and 7.7% had a 'very negative' or 'negative' experience of the respective episode of care, but when adding those who had mixed feelings the figures were 10% and 26% respectively.

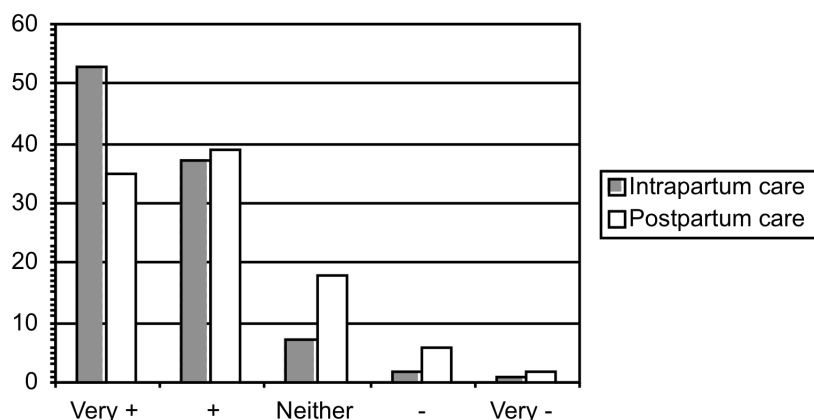


Figure 4. Overall rating of intrapartum and postpartum care. Abbreviations: + = positive, - = negative

Predictors of dissatisfaction related to psychological aspects of care, infant health problems, early and late discharge, the mothers' level of education and psychosocial support. In other words, complications related to the delivery (i.e. newborn transfer to neonatal unit after birth), non-optimal timing of discharge (too short or too long), many distressing symptoms during pregnancy and low level of education, were predictors of dissatisfaction with both intrapartum and postpartum care as a whole. Unplanned

pregnancy and not having had the opportunity to talk through the birth experience after the birth increased the risk of dissatisfaction with intrapartum care. Women who stayed in a larger hospital (more than 1000 deliveries per year) were more dissatisfied with postpartum care. In contrast, having stayed in a family-oriented ward, which allows fathers to stay overnight, was associated with more positive assessments.

The last regression model in Paper I tested the association between evaluations of specific aspects of care and general dissatisfaction. Aspects of care were thought to operate on different levels of abstraction, and it was therefore suggested that the global assessment represented the highest level, as it is a general assessment of the entire care episode. When assessing general care, the more specific aspects were thought to represent a larger or smaller part of this evaluation. Furthermore, emotional care and medical care are more specific aspects of care, yet quite broad. Data analysis confirmed that aspects of emotional and medical care explained a larger part of the global question than the even more specific aspects of care (see “Satisfaction with aspects of care” Table 1, p. 553 in Paper I). Finally, the most detailed aspects of intrapartum care and postpartum care that were statistically significantly related to the global question were:

- for intrapartum care: midwife support, involvement in decision-making and birth environment.
- for postpartum care: encouragement, opportunity to bring up own questions and help with breastfeeding.

## **4.2 PAPERS II AND III**

Papers II and III capture the multidimensional aspects of maternity care by reporting distinct profiles (i.e. cluster centroids), described along three and four dimensions of satisfaction. They also describe the characteristics of women who have these profiles, with respect to social and demographic background characteristics, psychological health in early pregnancy, labour outcomes, experiences during labour, way in which care was organised and overall satisfaction with care. By investigating women’s satisfaction with different aspects of intra- and postpartum care simultaneously, a set of clear-cut profiles was found. In line with Paper I, women’s assessment of intrapartum care was still more favourable than their assessment of postpartum care; however, the prevalence of dissatisfaction was higher. The multifaceted approach in Papers II and III provided details about who was dissatisfied with what, and showed that women were not necessarily either satisfied or dissatisfied with care in a general sense. Nine clusters of women with different profiles of satisfaction with intrapartum care and eight clusters of postpartum hospital care were identified. Various indicators confirmed satisfactory cluster solutions. The explained variance (Explained Error Sum of Squares, EESS) by the cluster solutions was 79% for intrapartum care and 73% for postpartum care, as compared with 67%, which is normally considered acceptable [122]. The replication analysis, using split-half samples, also indicated a high stability of both clustering structures in Papers II and III (adjusted rand index: intrapartum: care= 0.78 and postpartum care= 0.79). The simulation analysis which compared the explained variance of the resulting solution with those obtained by cluster-analysing 20 random sets yielded a statistically significant t-value, thus refuting the hypothesis of no relationships in the data. Finally, the tests including external variables demonstrated that individuals belonging to the same care profiles were similar with respect to different characteristics and outcomes of care. In sum,

maternal characteristics and emotional health in early pregnancy, feelings during the delivery, labour outcomes and the way in which care was organised, were associated with evaluations of care in Papers II and III. Tables 4 and 5 show the number of cases in each cluster (%) and the characteristic of the respective cluster in terms of satisfaction. The two tables also include the cluster centroids (the means for the clusters on the care variables) and the standard deviations of the centroids.

*Table 4. Intrapartum care: 9-cluster solution. The numbers of cases in each cluster (%), the characteristic of the respective cluster in terms of satisfaction, mean values (centroid) and standard deviations of the clustering variables ( Paper II).*

<b>Cluster #</b>	<b>N (%)</b>	<b>Description</b>	<b>Interpersonal care Mean (SD)</b>	<b>Information and decision-making Mean (SD)</b>	<b>Birth environment Mean (SD)</b>
<b>A</b>	495 (19)	Very satisfied	2.9 (0.07)	4.9 (0.22)	5.0 (0)
<b>B</b>	506 (19)	Satisfied Inf/Dec	2.9 (0.09)	4.8 (0.25)	3.6 (0.64)
<b>C</b>	240 (9)	Satisfied Env	2.9 (0.07)	3.8 (0.32)	4.9 (0)
<b>D</b>	514 (20)	Average	2.9 (0.17)	3.8 (0.28)	4.0 (0)
<b>E</b>	380 (15)	Dissatisfied Env	2.9 (0.11)	3.6 (0.41)	2.8 (0.47)
<b>F</b>	163 (6)	Dissatisfied Int pers	2.1 (0.20)	3.5 (0.68)	3.8 (0.95)
<b>G</b>	63 (2)	Very dissatisfied Int pers	1.1 (0.21)	4.0 (0.84)	3.8 (0.91)
<b>H</b>	171 (7)	Dissatisfied Inf/ Dec	2.9 (0.20)	2.7 (0.46)	3.8 (0.69)
<b>I</b>	73 (3)	Very dissatisfied	1.6 (0.33)	1.9 (0.60)	3.1 (0.12)
<b>All</b>	2605		2.8 (0.42)	4.0 (0.82)	3.9 (0.90)

Minimum and maximum values for Interpersonal care was 1-3, and for Info- and decision-making and birth environment 1-5.

Table 5. Postpartum care: 8-cluster solution. The numbers of cases in each cluster (%), the characteristic of the respective cluster in terms of satisfaction, mean values (centroid) and standard deviations of the clustering variables ( Paper III).

Cluster #	N (%)	Description	Interpersonal care Mean (SD)	Checking infant and maternal health Mean (SD)	Information and support Mean (SD)	Breastfeeding Mean (SD)
A	748 (32)	Very satisfied: all	2.9 (0.09)	2.0 (0.00)	1.9 (0.05)	2.0 (0.00)
B	305 (13)	Very satisfied: all but Info./supp.	2.9 (0.10)	2.0 (0.00)	1.5 (0.19)	2.0 (0.00)
C	178 (8)	Average	2.9 (0.16)	1.5 (0.00)	1.8 (0.16)	2.0 (0.00)
D	335 (14)	Dissatisfied: Breastfeeding	2.7 (0.39)	2.0 (0.00)	1.5 (0.31)	1.3 (0.25)
E	204 (9)	Dissatisfied: Interpers.	1.9 (0.48)	1.8 (0.24)	1.5 (0.31)	1.9 (0.15)
F	253 (11)	Dissatisfied: Check-ups	2.5 (0.42)	1.3 (0.25)	1.3 (0.23)	1.9 (0.17)
G	176 (7)	Dissatisfied: Check-ups & Breastfeeding	2.7 (0.27)	1.3 (0.22)	1.3 (0.30)	1.2 (0.24)
H	139 (6)	Dissatisfied: all	1.6 (0.44)	1.3 (0.33)	1.1 (0.18)	1.0 (0.42)
All	2338		2.7 (0.48)	1.8 (0.33)	1.6 (0.34)	1.7 (0.38)

Minimum and maximum values for interpersonal care were 1-3, and for checking infant and maternal health, information and support, and breastfeeding 1-2.

#### 4.2.1 Profiles Paper II

Graphical presentations of the cluster profiles of intrapartum care are presented in Figure 5. To create graphs, the centroids were first z-transformed. Figure 5 shows the rules that are applied when interpreting a standardised mean value of a cluster on the dimensions of care. For example, in cluster A (Figure 5) individuals are very satisfied with information/decision-making and environment, while in cluster E they are dissatisfied with environment. Figure 5 consists of two pictures, one with satisfied and the other with dissatisfied cluster profiles. One unit on the y-axis corresponds to one standard deviation. The mean values of care dimensions in the total sample (a straight line across the graphs) were high due to positively skewed distributions.

In Paper II 33% of the women reported some form of dissatisfaction with intrapartum care (clusters E, F, G, H, I). Out of those, 30% (clusters E, F, G, H) were dissatisfied with one dimension, and 3% (cluster I) with all dimensions. Women in E (15%) were

particularly dissatisfied with the birth environment. Clusters F and G (8%) had similar profiles: both groups were very dissatisfied with interpersonal care, although cluster G reported greater dissatisfaction than F. Women in cluster H (7%) reported dissatisfaction with information and decision-making. Cluster I (3%) comprised women who were very dissatisfied on all three dimensions (Table 4, Figure 5).

In Paper II, 67% of the women reported satisfaction. In the four satisfied clusters (A, B, C, D) the distribution was as follows: D (20%) fairly satisfied on all dimensions, C

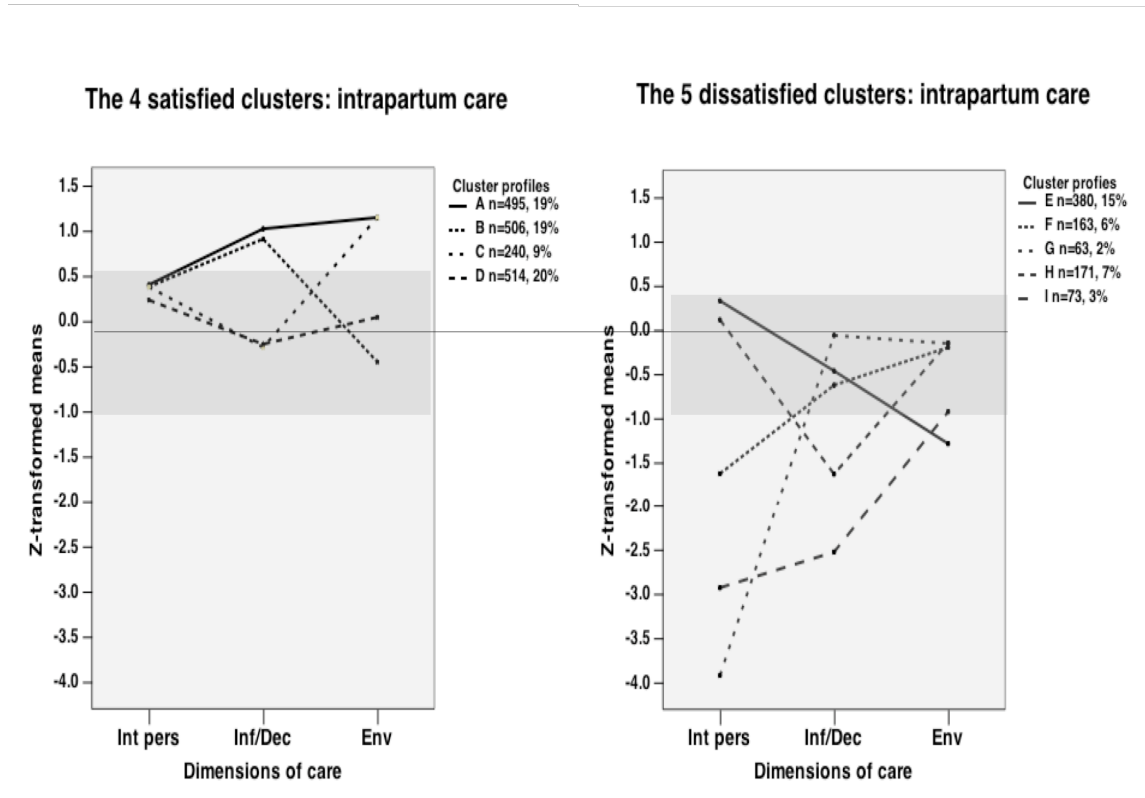


Figure 5. Intrapartum care; 9-cluster solution.

Each centroid is depicted by a profile linking the z-transformed means of the corresponding cluster on all three dimensions of satisfaction: interpersonal care (Int pers), information and decision-making (Inf/Dec) and environment (Env). A unit on the y-axis represents one standard deviation. The straight line across the two figures represents the standardised mean value for the entire sample. Mean values within the grey area were regarded as satisfied (less than 0.5 but larger than -1), above the grey area as very satisfied (larger than 0.5) and below as dissatisfied (between -1 and -2). Values below -2 were regarded as very dissatisfied.

\*The following rules were applied when interpreting a z-transformed mean value for a cluster on a certain satisfaction dimension:

1. When the z-transformed mean is larger than 0.5 SD, i.e. is more than half a standard deviation above the mean for the total sample, the individuals in that cluster are considered to be very satisfied with regard to that dimension.
2. When the z-transformed mean is less than 0.5 but larger than -1 SD, the individuals are considered to be satisfied with regard to that dimension.
3. When the z-transformed mean is between -1 (including that value) and -2 SD, the individuals are considered to be dissatisfied with regard to that dimension.
4. When the z-transformed mean is less than -2 (including that value) SD, the individuals are considered to be very dissatisfied with regard to that dimension.

(9%) very satisfied with the birth environment, B (19%) very satisfied with information and decision-making, and A (19%) very satisfied with both of these dimensions. No cluster was found that reported being very satisfied on all three dimensions (Table 4, Figure 5).

In the following, results are presented from the comparative analysis. The majority of clusters profiles in Paper II were not found to be statistically significantly associated with women's social and demographic background, except regarding level of education. High level of education was observed less often than expected by chance in the most satisfied cluster A, and more often in cluster E. Women with higher depressive symptoms and lower sense of coherence in early pregnancy were primarily dissatisfied with interpersonal care, and information and decision-making (dissatisfied clusters F, G, H, I). Emergency situations, such as an emergency caesarean section or newborn transfer to a neonatal clinic, were associated with dissatisfaction with information and decision-making and physical environment (Clusters E, H, I). Significantly more women had a normal delivery, and fewer had an instrumental vaginal delivery or an emergency caesarean section in the most satisfied cluster A. Also, neonatal transfer was less common than expected in cluster D. Much experienced pain, negative feelings during labour (fear, sadness) as well as lack of positive feelings (happiness, self assurance, attentiveness) were associated with negative evaluations of care. The women's mood and experiences of pain were all significantly related to different cluster profiles, with the satisfied clusters (A – D) reporting a higher degree of positive feelings and less negative feelings during labour. The dissatisfied groups (E-I) on the other hand, had experienced more fear, sadness and pain and less happiness, self-assurance and attentiveness during labour. Substantial significant differences between cluster profiles and global satisfaction with intrapartum care were found in the expected directions. Women in clusters A, B and C were more positive in their assessment of care as a whole than those in all the other clusters.

#### **4.2.2 Profiles Paper III**

Graphical presentations of the cluster profiles of postpartum care are presented in Figure 6 in a similar way as above. The centroids were z-transformed and the same rules were applied when interpreting a standardised mean value of a cluster profile as described above. Figure 6 consists of two graphs, one with satisfied and the other with dissatisfied postpartum care cluster profiles. Table 5 reports the number of cases (%) in each postpartum profile and the characteristic of the respective profile in terms of satisfaction. Table 5 also includes the cluster centroids (the means for the clusters on the care variables) and the standard deviations of the centroids.

In Paper III more than half of the women reported some form of dissatisfaction (47%, clusters D, E, F, G, H), including 34% (clusters D, E, F) who were dissatisfied with one dimension, and 13% (clusters G, H) with two or more dimensions of care. In the five dissatisfied clusters (D, E, F, G, H) the distribution was as follows: D (14%) dissatisfied with breastfeeding support, but very satisfied with the time spent on checking infant and maternal health (check-ups), E (11%) particularly dissatisfied with interpersonal care, F (11%) dissatisfied with check-ups, G (7%) dissatisfied with both check-ups and breastfeeding support, H (6%) dissatisfied with all dimensions,



including very high levels of dissatisfaction with interpersonal care and breastfeeding support. (Table 5, Figure 6).

The other half of the women (53%) reported a positive evaluation of postpartum hospital care. In particular, women in cluster A (32%) were very satisfied with all four aspects. Women in cluster B (13%) were very satisfied with all dimensions, except the time spent on information and support. Women in cluster C (8%) were very satisfied with the time spent on breastfeeding support and fairly satisfied with the remaining three aspects (Table 5, Figure 6).

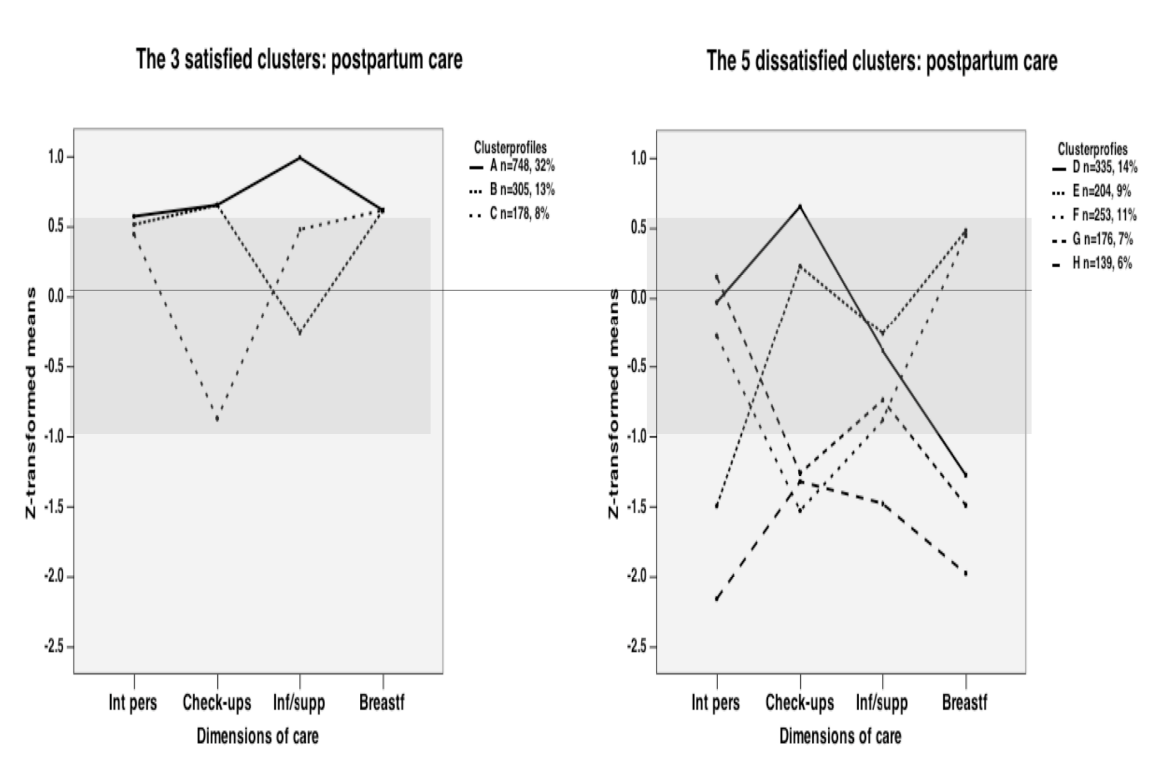


Figure 6. Postpartum care; 8-cluster solution.

Each centroid is depicted by a profile linking the z-transformed means of the corresponding cluster on all four dimensions of satisfaction: i.e. 1) interpersonal care (int pers), time spent on checking infant and maternal health (check-ups), 2) time spent on information and support (inf/sup), and 4) time spent on breastfeeding (breastf). A unit on the y-axis represents one standard deviation. The straight line across the two figures represents the standardised mean value for the entire sample. Mean values within the grey area was regarded as satisfied (less than 0.5 but larger than -1), above the grey area was very satisfied (larger than 0.5) and below as dissatisfied (between -1 and -2). Values below -2 were regarded as very dissatisfied.

\*The rules as in figure 5 were applied when interpreting a standardised mean value for a cluster on a certain satisfaction dimension.

Since the response format on the three dimensions included a choice between assessing whether ‘too little’ or ‘too much’ time was spent, this was examined separately. Women rarely said that too much time was spent on any task, with the exception of 16% of women in cluster D (n=54) who reported that too much time was

allocated to breastfeeding support, and in clusters G and H where the corresponding figures were 12% (n=21) and 14% (n=19) respectively.

In the following, results are presented from the comparative analysis First-time mothers, immigrant women, young women and those with a short length of stay characterised some cluster profiles. Smoking habits, marital status, experience of support from one's partner in early pregnancy, newborn transfer to neonatal clinic, number of home visits and professional background of the home visitor, were not associated with cluster profiles. Women dissatisfied with breastfeeding support (cluster D), were typically young, first-time mothers; in addition, they more often had a low education and had had an emergency caesarean section. The group of women who were dissatisfied with the time allocated to checking infant and maternal health (cluster F) more often gave birth in a large hospital without the opportunity to talk through the birth experience and typically had a non-Swedish background. Cluster E, characterised by dissatisfaction with interpersonal care, had a short hospital stay and had less often had an instrumental vaginal delivery or an elective caesarean section. Typical for women in cluster G (dissatisfied with all dimensions except interpersonal care) was primiparity and an instrumental vaginal delivery. Characteristics of women in cluster A, who were very satisfied with all dimensions of care, were that they were less often young first-time mothers. In contrast, elective caesarean section, small hospital size and opportunity to talk through the birth experience postpartum were more common in this group.

Depressive symptoms and sense of coherence in early pregnancy differed significantly between the most satisfied (A) and the other clusters. Compared with clusters E, F, G and H, women with lower level of depressive symptoms during pregnancy were found in cluster A. Sense of coherence was significantly higher in A than in all the other groups except cluster C. Subsequently, women in clusters D, E, F, G and H reported a lower sense of coherence, and E, F, G and H also reported a higher level of depressive symptoms than women in the very satisfied cluster A. Not surprisingly, women in the three most satisfied clusters, A, B and C, assessed care more positively than all the other clusters, on the single-item global question of satisfaction with care.

### **4.3 COMPARISON: PAPERS I – III**

Figure 7 shows combined results from Papers I, II and III. A comparison between frequencies of satisfied and dissatisfied users of intra- and postpartum care are presented in the form of bar charts.

The cluster solutions gave a more negative picture of women's experience of care than the global single item used in Paper I. For intrapartum care the findings in Paper I showed that 90% were satisfied and 10% were dissatisfied. This can be compared with the cluster solution in Paper II, which identified 33% of women with some form of dissatisfaction. For postpartum care the findings in Paper I showed that 74% were satisfied and 26% were dissatisfied. This can be compared with the cluster solution in Paper III, which identified 47% of women with some form of dissatisfaction.

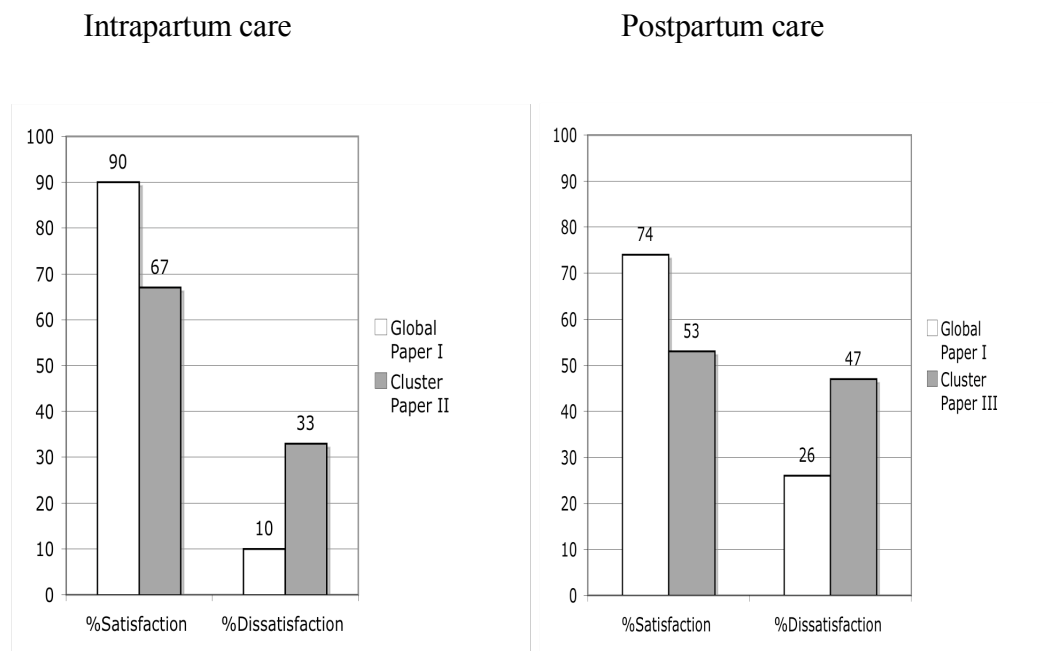


Figure 7. Women who were satisfied versus not satisfied with intrapartum and postpartum care in paper I (global question), paper II (cluster solution) and paper III (cluster solution).

By contrasting these two different methods the limitation of using global measures was shown, but also its advantages, in terms of higher response rates. Approximately 300 women answered the global question about postpartum care but not the specific questions used in Paper III. One explanation for the higher internal dropout related to the four dimensions of care may be that women who were discharged early were able to evaluate postpartum care as a whole, but not the specific questions. Overall measures were shown to effectively complement more detailed questions that sometimes resulted in non-response for patients who had difficulty in completing the more specific aspects. Total internal dropout from the postpartum care questions in Paper III included 444 women. This can be compared with the 177 who did not answer the questions about intrapartum care. In 44 cases a possible reason for non-response was early discharge from hospital after the birth. On the other hand, of the 277 women who were discharged within 24 hours of delivery, 233 still made an assessment of postpartum care. Women who gave birth in a smaller hospital where intrapartum and postpartum care took place in the same ward (n=196) answered the questions about postpartum care, with only one exception. In sum, by contrasting these two different methods the limitation of using global measures was shown. However, advantages in terms of higher response rates were also clear.

#### 4.4 PAPER IV

##### 4.4.1 Critical views on postpartum care

A diverse picture of negative experiences of care evolved from analyses of women's own written thoughts and comments; for instance, about lack of opportunity to rest and recover, difficulty in getting individualised information and breastfeeding support, and appropriate symptom management. The different statements were summarised in six categories.

#### *4.4.1.1 Who expressed a critical view?*

In total, 192 women commented on their postpartum experience in their own words. A minority of them made a positive statement (n=41, 21%), and a majority a negative one (n=150, 78%). Of the 150 women with a negative comment, who constituted the present study group (Figure 3), 30 also mentioned positive aspects of postpartum care.

The women who spontaneously gave negative comments about postpartum care were compared with those who did not, with respect to socio-demographic background, labour outcomes, care organisation, and overall assessment of postpartum care, which was measured quantitatively by a question with predefined response alternatives. The characteristics of the study sample in Paper IV were found to be largely representative of the KUB sample, with the exception that postpartum care in a large hospital (>4000 deliveries/year), and not having talked through the birth experience, were more common. Despite having written about a particular negative experience, 51% rated postpartum care overall, as 'very positive' (14%) or 'positive' (37%). Furthermore, 21% assessed postpartum care as being 'neither positive nor negative', 19% as 'negative' and 9% as 'very negative'.

#### **4.4.2 Areas associated with women's negative concerns**

The six categories of negative statements that emerged from the analysis in Paper IV related to: organisation and environment, staff attitudes and behaviour, breastfeeding support, information, the role of the father and attention to the mother (Table 6).

##### *4.4.2.1 Organisation and environment*

Respondents ascribed many negative experiences to deficient care organisation, e.g. under-funding and policy issues. Several mothers attributed an unwelcoming and irritated atmosphere to staff shortages and lack of time. Lack of continuity was also described as a problem, especially when women met many caregivers who seemed to be unaware of what their colleagues had already said or done.

Some comments showed that women understood that the prerequisites for providing high-quality care were limited due to overcrowded wards and shortage of beds; for example, one woman had to sleep in the corridor, and overcrowded rooms or lack of single rooms impacted on privacy. Shortage of beds was at times understood as a reason for having to leave hospital too early. Inflexible length of stay, not adapted to individual needs, was described as a problem. The feeling of being 'kicked out' or pressured into leaving hospital only a few hours after the delivery caused stress and made women feel that their individual requirements of support were not met. On the other hand, other respondents said that their request to go home early was not met because their baby had been transferred to the neonatal clinic, or because they had to wait for test results, or because the staff had negative attitudes to early discharge (a couple of young women felt that the negative attitude among staff related to their young age).

*Table 6. Areas of postpartum hospital care associated with women's negative concerns.*

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**Areas of postpartum hospital care**

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**1. Organisation and environment (n=77)**

Shortage of staff  
Lack of staff continuity  
Shortage of beds  
Deficient physical environment in general  
Inflexible length of stay  
Fathers not allowed to stay overnight  
Separation when baby is at neonatal clinic  
Problems experienced in postpartum care at a hotel

**2. Staff attitudes and behaviour (n=71)**

Lack of interest, invisible  
Insensitive, unfriendly, disrespectful, impersonal  
Incompetent  
Rushed, stressed

**3. Breastfeeding support (n=37)**

Insufficient support  
Inappropriate support

**4. Information (n=47)**

Insufficient  
Inconsistent  
Incorrect

**5. The role of the father (n=8)**

Lack of attention and support

**6. Attention to the mother (n=91)**

Insufficient attention to physical health  
Insufficient attention to emotional needs

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Another issue was mothers' experiences of inappropriate routines, for example, lack of support during night-time, especially in combination with the father having been sent home. Even though flexible individualised care was desired, at the same, a sense of unstructured care resulted from what was described when established routines seemed absent. Some mothers were very distressed when the father was not allowed to stay overnight, or when they were uncertain about whether he could stay or not. The wards were described as especially chaotic during summertime.

Dissatisfaction was also expressed in relation to environmental issues that made mothers feel uncomfortable, such as bad mattresses, shabby rooms and the fact that the room temperature was too high. Noise, stressful atmosphere, and people running in and out of doors made it difficult to rest, sleep and recover after the birth. Being separated from the baby was another stressful issue that also made it difficult to

establish contact with the staff at the postpartum ward. One woman described that it was hard having one's baby in the neonatal clinic and at the same time sharing a room with a mother who roomed-in with her baby.

Postpartum care at a hotel (i.e. postpartum care in a hotel located in close proximity to the delivery ward) was associated with many negative comments. Negative remarks consisted of it being impersonal, isolated, and an inappropriate environment for the newborn baby. This model was criticised for not always offering sufficient support, and it was sometimes not even perceived as postpartum care at all.

#### *4.4.2.2 Staff attitudes and behaviour*

Staff behaviour such as avoiding making contact, not showing concern about the mother's feelings, and not asking about the baby's or the mother's health, was interpreted by the mothers as lack of interest in them and their family. Staff who persistently asked them to leave the hospital, sometimes despite medical complications, or who expressed relief and happy feelings when the family was about to go home, made some mothers feel unimportant and invisible. Critical remarks also related to when personnel seemed to be working merely according to 'routine'. There were numerous examples that described caregivers as insensitive, unfriendly, disrespectful, irritated and impersonal. Women expressed that staff members lacked understanding and sympathy for exhaustion (tiredness) and difficulties with breastfeeding. Caregivers were seen as insensitive and tactless when they acted in an ill-tempered manner, for example by hissing at the mother. Negative descriptions also related to situations when mothers felt that the staff were criticising them, or did not respect their own decisions. One woman complained when she felt that she was first "treated like an idiot" on one occasion, and then expected to know everything. In Sweden the main responsibility for care during the postpartum period rests with the midwife. However, when expressing negative experiences with staff in Paper IV, women referred to several different professional groups, such as midwives, nurses, doctors, assistant nurses and physiotherapists.

Some women were concerned about the uneven competence of the staff. Negative descriptions were related to lack of competence and knowledge about treatment and medical complications. Comments also related to the time constraints of the staff, which made them rushed, and sometimes even confused and mixed up. Some women felt reluctant to ask questions because of the high stress level among some members of staff.

#### *4.4.2.3 Breastfeeding support*

Breastfeeding support was a major issue of concern. Negative statements were linked to experiences of insufficient support and lack of helpful advice. Insufficient support concerned general matters as well as specific areas, e.g. breastfeeding after a breast operation, a caesarean section or when the baby was underweight. Being a 'baby-friendly clinic' (pro-breastfeeding clinic) and at the same time forcing mother and baby to go home early was seen as contradictory. Problems with insufficient milk supply and supplementary feeding were seen as forgotten subjects on postpartum wards of today. Incorrect instructions and guidance caused anger, worry and disappointment, and comprised monotonous, simplistic and poor standard of

breastfeeding knowledge. Other women described support as inappropriate, which included too much and wrong focus on breastfeeding supervision, lack of respect and understanding of the mother's own decision, and exaggerated concentration on the advantages of breastfeeding. Part of this sensitive issue evolved around feeling pressure and guilt when using supplements. Mothers explicitly expressed that they wanted to be encouraged instead of pressured.

#### *4.4.2.4 Information*

Insufficient information was recognised within the following areas: physical changes and adaptation, postpartum pain and pain relief, self-care (e.g. diet, exercise, pelvic floor exercises), emotional issues and psychological adjustments, adaptation to parenthood, the birth experience, and childcare (e.g. what a child needs, nappy changes, red bottoms, colic and baby crying). Insufficient information affected women both during the hospital stay and after discharge from hospital. Some women said that they experienced a lack of standardised basic information and others that inconsistent information meant a setback. In some cases incorrect information even led to complications or delayed recovery. Others said it made the first period with the baby less enjoyable. Examples were also given where unrealistic information counteracted optimal adjustment.

#### *4.4.2.5 The role of the father*

Some women expressed disappointment that postpartum care was organised mainly around mother and baby, leaving the father outside. These women were critical about the fact that their partners rarely had the opportunity to talk to any caregiver themselves. Positive encouragement and information about the transition to parenthood also for the fathers was described as scarce. A couple of mothers said that their partners felt forgotten and abandoned since they were not given the opportunity to get involved in postpartum care. Sending fathers home made them feel superfluous and unnecessary, and made the mothers feel lonely and left without practical help. Several women experienced that the message about the important role of fathers was contradictory to sending him home.

#### *4.4.2.6 Attention to the mother*

In many of the comments, women expressed that insufficient attention was paid to their own physical health and emotional needs during the postpartum stay in hospital. After the baby was born, they described feeling neglected because all focus shifted to their baby. Especially neglected areas were the management of medical complications, postpartum pain, breast complications, and emotional adaptation. Also, problems of not being taken seriously were emphasised, in relation to worries about both physical and psychological health. The use of what one woman called the "help-yourself" model left a sense of being abandoned. Insufficient contact with staff, lack of answers to one's own questions, feeling "in the way", and a general lack of individualised care, were mentioned. One woman wished she had "dared" to ask for help, but did not do so because she wanted to prove that she was capable. She did not want to bother the staff unnecessarily.

#### *4.4.2.7 Positive views on postpartum care*

To broaden the understanding of care descriptions, women's (n=41) positive experiences of hospital postpartum care, expressed in their own words, will briefly be presented. In short, the majority of comments the subjects addressed were of a general nature, such as "care was good". Often women did not specify why they were satisfied. The descriptions were broad and general, but sometimes related to specific issues, such as care on the mother's terms, good supportive care, encouragement and help. Some women praised the staff as being extraordinarily competent, supportive, helpful and tactful. In other cases, women expressed being satisfied with voluntary discharge, having a room of their own or the fact that it was possible for the father to stay overnight. Privacy and independence at a postpartum hotel was mentioned, as well as appreciation of pain relief and a small scale of a postpartum ward. The positive comments did not address any distinct area that was not mentioned also in the negative statements.

### **4.5 CONCLUDING RESULTS ON NON-RESPONSE**

Altogether 331 women answered the first questionnaire, but not the second and third one. The non-respondents in the second wave (of relevance in all four papers) differed significantly with respect to certain psychological and background characteristics. These women rated lower on the SOC scale (m=66 vs. 69) and higher on the EPDS scale (m=8 vs. 6). In addition, they more often had a non-Swedish background (18% vs. 9%) and had a lower level of education (17% vs. 6%); they were also less often employed (53% vs. 67%) and more often smokers (20% vs. 10%).



## 5 DISCUSSION

The background of this thesis was lack of knowledge about how childbearing women in Sweden experience hospital care during labour and birth, and during the postpartum period. The findings showed that most women were satisfied with care as a whole, when it was measured by a single global item as in Paper I. Ten percent were not satisfied with intrapartum care and 26% were dissatisfied with postpartum care. Dissatisfaction becomes more obvious, the more specific questions one asks. The pattern-oriented approach used in Papers II and III showed that by investigating women's experiences of different dimensions of care, a more diverse picture evolved. The respective proportions of women who were dissatisfied with at least one dimension of intrapartum care and postpartum were 33% and 47%. By asking women to talk about their experiences of care in their own words, a more in-depth picture of specific problems was disclosed.

In the following discussion, findings obtained with the different methodological approaches about women's evaluations of intrapartum and postpartum care will be compared and thereafter described in the first three sections. More specifically, results will be compared and contrasted from the different papers, in order to scrutinise how the different methodological approaches used contributed to our understanding of intrapartum and postpartum care evaluations. Then, the discussions will focus on different aspects of care (Subtitle 5.4), each under a specific heading, covering the significance of caregiver support, problems related to information and decision-making, information and support, hospital organisation, environment and breastfeeding. In this way the discussion tries to integrate the results from the four papers. Finally, a discussion of methodological shortcomings is given, starting with limitations of measures followed by considerations regarding statistical analyses.

In this discussion an attempt was made to specify the similarities and differences between general matters of patient satisfaction irrespective of type of care and the special case of maternal satisfaction. Regarding patient satisfaction in general, those who receive care are referred to as patients. Sometimes, however, maternity care users are included in these studies of satisfaction in general. Issues that refer uniquely to maternity care users are specifically defined as such. Another potentially complex issue relates comparison of assessments of healthcare between different countries, which may have dissimilar healthcare systems; therefore, in most cases the countries where research was conducted are detailed.

### 5.1 COMPARING INTRAPARTUM AND POSTPARTUM CARE

Similarly to findings of other studies, where intrapartum and postpartum care were studied separately, this thesis showed that assessments of postpartum care were less favourable than those of intrapartum care [56, 58, 88, 107, 134]. One out of four women in Paper I experienced problems in connection with postnatal care. When different aspects were accounted for, every second woman was less than satisfied (Paper III).

The different assessments of intrapartum and postpartum care may be related to the characteristics of the respective caring episode (see below). Another explanation is

that women's experiences of intrapartum care may have been more consistent with their expectations. Labour and birth is handled essentially in the same way in all Swedish hospitals, whereas postpartum care may differ. Findings in Papers I and III indicated that the question of whether the father can stay overnight or not, made a difference to women's assessments. However, expectations during pregnancy were not investigated, but other studies have found that expectations and values may explain about 10% of the variation in satisfaction scores [5, 135].

Another explanation of the relatively high proportion of women who were not satisfied with postpartum care may be that they felt poorly prepared for the postpartum period, as suggested by Kline and colleagues [136]. It is well acknowledged that antenatal childbirth education often has a strong focus on the birth, but also that women have difficulties seeing beyond this event [137, 138]. Regardless of explanation, improvements could be made on all dimensions of care reported in Paper III, since only 32% were very satisfied with them all.

One could argue that intrapartum and postpartum care cannot be compared, because of the different character of these caring episodes [139]. Intrapartum care is more task-oriented than postpartum care. The relatively short stay in the delivery room includes dramatic events that must be handled in a specific way. Clinical practices are roughly the same in all delivery wards in Sweden, whereas postpartum care may differ, not least regarding length of stay [140]. Intrapartum care deals with an acute and potentially life-threatening process, and gratitude to the staff for being there to help may overshadow other aspects of care. The assessment of intrapartum care may also be difficult to separate from the experience of labour as such. Besides, women's positive assessments of intrapartum care may be influenced by psychological reactions, such as having endured hours of painful labour and finally successfully giving birth to a healthy baby [44, 104]. Our finding that model of care and hospital size were associated with the experience of postpartum care but not with intrapartum care (Paper I), supports the conclusion that differences in the content of care might explain some of differences in satisfaction ratings.

The nature of postpartum care is more diffuse. The woman is in a different emotional state when receiving postpartum care, and fatigue and the new demands of motherhood may influence her satisfaction scores. Postpartum care is less dramatic, but still includes new challenges, such as initiating breastfeeding, caring for the newborn baby, and physical and emotional adaptation to a new life situation. Postpartum care is more oriented towards information, teaching, support and encouragement, and midwives and doctors are often less trained in these tasks. Confusion about the objectives of postpartum care is also described by the caregivers. Postpartum wards in Sweden were previously staffed by nurses, then predominantly by midwives, and today by both nurses and midwives. These shifts reflect a combination of factors, such as a shortage of midwives, professional policy about postpartum care being the domain of midwives, and midwives' reluctance to practise within the field because postnatal issues may be regarded as less challenging, as suggested by Homer and colleagues in Australia [59]. Having said this, we do not suggest that our findings regarding women's dissatisfaction with postpartum care are acceptable. The details presented in this thesis indicate that there is room for great improvement.

## **5.2 INTRAPARTUM CARE**

In this section, findings regarding different evaluations and determinants of intrapartum care will be compared and discussed.

### **5.2.1 Maternal background**

A meta-analysis conducted by Hall and Dornan, which focused on socio-demographic factors, found that patient satisfaction was significantly related to higher age and less education, and marginally related to marital status and higher social status [141]. Studies of intrapartum care have been inconclusive regarding, for example, the impact of maternal age and economic background. When comparing factors that are associated with satisfaction with intrapartum care in Papers I and II, both similarities and differences were found. Parity, marital status, country of birth and smoking habits were not associated with satisfaction in either paper. Neither did Brown and Lumley in Australia [70] find any association between maternal age, marital status, country of birth and satisfaction with intrapartum care. The limited variation in these variables is natural in a sample of only childbearing women, and could therefore possibly account for the lack of association in this context. Nevertheless, it cannot be ruled out that this lack of variation was caused by the slightly skewed distribution of dropouts discussed earlier (Result section, 4.6.4 Concluding results on non-response).

At first sight, the different findings regarding the association between education and dissatisfaction, in Papers I and II respectively, may seem contradictory. In the first paper, low education was associated with overall dissatisfaction with intrapartum care. One would therefore expect that higher education would be associated with satisfaction. However, in the second paper, highly educated women were underrepresented in the most satisfied cluster. The latter finding could be explained by the selection of women to this specific cluster. Women who were “very satisfied” with all three dimensions of care may have been less critical, and this may not be a characteristic of highly educated women.

The association between low education and maternal dissatisfaction with global care (Paper I) was in contrast to the findings in the meta-analysis by Hall and Dornan [141], since they reported that patient satisfaction was related to less education. This discrepancy may be explained by the different samples. Most of the studies included in the meta-analysis were based on sick patients. These patients were older than the women in this thesis, and it is established that older sick patients are more grateful and more satisfied than younger patients [141]. Altogether, women’s background characteristics affected their assessment of intrapartum care, but only to a limited extent.

### **5.2.2 Maternal health in early pregnancy**

A surprising finding in Paper I was that psychological symptoms during pregnancy, such as depressive symptoms and worries, was not associated with a low satisfaction score, whereas many physical symptoms were. In Paper II, on the other hand, depressive symptoms in early pregnancy were more common in 3 of the 5 most

dissatisfied clusters, compared with the most satisfied ones. This dissimilarity may be explained by the way the EPDS was analysed. In Paper I, the scale was dichotomised between score 14 and 15, whereas in Paper II the mean values were used in a one-way ANOVA.

### **5.2.3 Labour and infant outcomes**

Labour outcomes, such as an operative delivery and infant transfer to a neonatal clinic, have earlier been reported as risk factors for not being satisfied with intrapartum care [70]. In line with this, operative delivery and newborn transfer to a neonatal clinic after birth were related to less satisfaction with intrapartum care in Papers I and II. In Paper I, transfer to the neonatal clinic immediately after the birth, particularly in combination with either a normal vaginal delivery or an emergency caesarean section, increased the risk of not being satisfied with care. It has previously also been reported from the KUB study that an emergency caesarean section and neonatal transfer after the birth were associated with a negative experience of childbirth [26]. These same risk factors for not being satisfied with intrapartum care were found in an Australian study [70].

In clusters that were dissatisfied with the environment and information / decision-making, transfer of the baby to the neonatal clinic was more common (Paper II). This finding may be explained by a lack of attention to the specific needs of mothers who are separated from their babies for medical reasons. Having a sick baby that needs to be transferred to another part of the hospital may require more attention to information and decision-making, and the separation from the baby and distance to the neonatal unit may place an extra burden on the new mother.

## **5.3 POSTPARTUM CARE**

### **5.3.1 Maternal background**

Being single was associated with not being satisfied in Paper I. It is easy to understand that these women may feel lonely and maybe even abandoned in a hospital environment where the presence and involvement of the baby's father is common practice.

Despite the inclusion of only Swedish-speaking women, an association was found between non-Swedish background and dissatisfaction with the checking of the infant's and their own health (Paper III). These women may have had other expectations of medical involvement in their postnatal care compared with what is common practice in Sweden, but it could also reflect a greater need in this group for medical assistance and check-ups. This latter interpretation seems reasonable considering the association reported from a Swedish study between immigrant background and increased risk of non-normal birth and postnatal complications [142]. Cultural differences in combination with language problems may possibly explain why this same group of women talked through their birth experience postpartum less often (Paper III). Likewise, Small and co-workers [143] showed in an Australian study that immigrant women were much less likely to experience that maternity care met their needs. Nevertheless, it was shown that they did not differ from others in

their expectations of the services. These results indicate that sensitivity to the needs of women with immigrant backgrounds could be increased in Swedish maternity care.

Parity was not associated with women's overall satisfaction scores in Paper I, yet was discriminating between several cluster profiles in Paper III. With the pattern approach, it was discovered that multiparity was associated with being 'very satisfied' on all dimensions. Primiparity, on the other hand, was associated with dissatisfaction with breastfeeding and medical check-ups of mother and baby.

### **5.3.2 Maternal health in early pregnancy**

The impact of women's psychological health in early pregnancy (i.e. depressive symptoms and sense of coherence) was most obvious in the most satisfied group of mothers (Cluster A in Paper III). Fortunately, this was the largest of all clusters, including about one third of the sample (32%). These very satisfied women, may have had a basic positive attitude and no difficulty in asking questions and seeing that their own needs were met (Paper III). Talking through the birth experience was, for example, more common in this group. These women may also have received better care because caregivers found it easier to communicate with them than with other patients. Women who were dissatisfied with all aspects of postnatal care had higher depressive symptoms in early pregnancy and a lower sense of coherence. Despite recent evidence suggesting that personality is only marginally related to patient satisfaction with hospital care [43], it cannot be ruled out that personality disposition, or some other factor not included in this study (e.g. the impact of earlier experiences, expectations, life situation in general), may have played a role in these women's negative assessments.

### **5.3.3 Labour and infant outcomes**

In Paper I, newborn transfer to a neonatal unit after a vaginal birth was associated with a more negative assessment of postpartum care, whereas no such association was found in Paper III. Again, this discrepancy between the results of the two papers could be explained by the different ways of measuring satisfaction. A similar finding was reported by Rowe-Murray, who found an association between operative delivery and less successful initiation of breastfeeding [144].

Lack of sufficient management of medical complications, postpartum pain, breast complications, and emotional adaptation were brought up in the negative comments in Paper IV. Being separated from the baby was stressful and it also made it difficult to establish contact with the staff at the postpartum ward. In line with these findings are those of Martell [145], who found a link between bad labour outcomes, postpartum complications, and a poorer capacity to cope with the hospital environment.

### **5.3.4 Length of hospital stay**

Hospital discharge within one day after the birth was associated with being less satisfied in Paper I, and typical for women who were dissatisfied with interpersonal care in Paper III. The feeling of being 'kicked out' or pressured into leaving hospital

was not regarded as supportive care (Paper IV). Today's short length of hospital stay (average 2.3 days after a vaginal delivery) in combination with the large number of deliveries may encourage stereotypical information and checking instead of individualised patient care. Lack of individualised care has been identified as a problematic part of health care in general (UK, Finland, USA) [146-148]. The short length of stay and large turnover of maternity care have made it more difficult for caregivers to give the necessary information and support in Sweden and Australia [85-87, 149], and also to give individualised and sensitive care in general [41]. Alternative explanations of the association between early discharge and dissatisfaction could be that some of these women left hospital early because they were disappointed with care in the first place, or with the communication with the caregivers (Papers III, IV). As indicated in Paper IV, for example, not wanting to separate from the baby made it difficult to establish contact with the staff at the postpartum ward. Patients' frustration with non-optimal timing of discharge has earlier been linked to lack of access to care in general [41].

The problems described by women in Paper IV, were not always related to the duration of the hospital stay as such, but rather with the inflexibility associated with hospital discharge. Some women would have preferred a shorter stay. If the length of stay was longer than 5 days, dissatisfaction with both intrapartum and postpartum care was predicted (Paper I). In these cases, maternal or infant health problems may have had a greater impact on women's overall assessment of care than the duration of postpartum care as such.

Shorter length of postpartum stay has been widely discussed internationally, and many attempts are being made to find alternative ways of supporting women, such as domiciliary visits, telephone follow-up, and clinic visits. Domiciliary visits may be one of the best ways of giving individualised care [150-152]. Two studies from California [151, 152] showed that, for low-risk mothers and newborns, home visits compared with hospital-based follow-up were associated with equivalent clinical outcomes and higher maternal satisfaction, although home visits were more costly. With few exceptions, the reduction in length of postpartum stay in Sweden has not been followed by any expansion of the domiciliary services. Of all the women who participated in the current KUB study, 61% said they were visited at home during the first week after hospital discharge, and 90% of these women received one visit only. Most of these visits (81%) were by the nurse from the child health clinic, and one such visit has been common practice in Sweden over several decades.

#### **5.4 ASPECTS OF CARE**

Thus far, results from the different papers have been discussed, compared and contrasted, in order to examine how different methodological approaches have added to our understanding of evaluations of intrapartum (Papers I and II) and postpartum care (Papers I, III and IV). In the following discussion, findings from all four papers will be considered together, with a focus on aspects of care, instead of different types of care.

When taking all aspects of intrapartum and postpartum care into account, those related to emotional dimensions of care seemed to influence women's overall

assessment the most (Paper I). Lack of support by the midwife during labour and birth, and lack of opportunity to participate in decision-making, were associated with not being satisfied, and this finding is in line with previous research on intrapartum care in Australia [63]. In comparison with those who were satisfied, the less satisfied women in Paper II retrospectively reported a greater experience of pain, a higher rate of negative affect, and a lower rate of positive affect during the birth. These findings are similar to those reported by Gesell and Wolosin (USA) [25], who found that key areas of patient satisfaction concerned emotional support, and relief of fear and anxiety.

Obviously, a woman's assessment of intrapartum care at two months postpartum was associated with how she recalls feeling during labour, in other words, how she experienced the birth-giving situation. Therefore, negative or positive assessments of care do not necessarily reflect actual caring events as they would have been described by another person in the birthing room. The assessment of care, however, is the true reflection of the woman's experience, regardless of any 'objective' description by an external observer.

Whereas postpartum care in the old days was driven by rigid routines and medical check-ups, today's care may have moved too far in the opposite direction. Postpartum women seemed to be fairly satisfied with the time allocated to the infant, but not with the time allocated to themselves as new mothers. In Paper IV, women expressed that more support should be tailored to their own physical health and emotional needs during the postpartum stay in hospital. After the baby was born, some women felt that all focus shifted to the baby. They expressed feeling forgotten, and that all initiatives were handed over to them. The use of what one woman called the "help-yourself" model left a sense of being abandoned, which sometimes also resulted in inappropriate symptom management. Similar findings have been reported from Australia, by Brown and colleagues, who found that half of the women reporting health problems favoured more assistance or advice [153]. Yelland and colleagues found that one third of the women experienced a desire for more help and support with personal needs as well as baby care, when leaving hospital [154].

A challenge for the caregiver is to get the right balance between the amount of information given, medical check-ups and time for the mother herself to ask questions [84]. One way of dealing with information has been to introduce checklists, where the caregiver ticks each item that has been addressed. However, this method of information-giving does not seem to meet the needs of the individual woman, but rather those of the caregiver [155].

Below, the subsequent five aspects will be discussed in more detail, each under a specific heading: caregiver support, information and decision-making, information and support, hospital organisation, environment and breastfeeding.

#### **5.4.1 Caregiver support**

Women's assessments of both intrapartum and postpartum care suggest that the lay-practitioner relationship could be improved. Interpersonal manner, as well as

sufficient time for personnel to give support, provide information and discuss care decisions with the woman, is very important. Of these two aspects, the issue of time may seem the easiest to resolve. This may require reorganisation and discussions about how to prioritise the time available and possibly require additional resources. The question of how to improve interpersonal manner may be more problematic, since it is related to individual characteristics. However, discussing the significance of staff behaviour, or attitude, to patient satisfaction is a first step towards higher rates of patient satisfaction with caregiver support.

The findings of this thesis also indicate that women should be given the opportunity to talk through their birth experience postpartum (Papers I and III). Such talks may not have dramatic effects, such as reducing postnatal depression [156], but they may help the new mother sort out her own feelings and memories of labour and birth.

The significance of caregiver support has been described in other reports from the KUB study, in relation to other episodes of care, such as antenatal care [99, 157, 158], and care given at the child health clinic during the infant's first year of life [102, 159]. When women were asked about their views in early pregnancy, the following characteristics of the midwife were called for: supportive, friendly, attentive, respectful, and non-judgemental [157]. In general, the women put great emphasis on a patient-centred approach when asked in early pregnancy.

The importance of caregivers' responsiveness to patients' needs, and the effect of skilful interactions when assisting a woman to maintain personal control during labour, has repeatedly been reported [52, 63, 66, 70]. When a woman felt more self-assured (including perceived control) during labour, satisfaction with care was higher (Paper II). Negative feelings such as fear and sadness were more frequent among dissatisfied women.

Some women described that meeting many different caregivers, and receiving conflicting advice was a problem on the postnatal wards (Paper IV). These same issues have also been recognised by caregivers themselves. Midwives in Sweden and Australia reported insufficient time to spend with women [85, 86], lack of continuity and inadequate staffing levels in order to provide effective postnatal care [86, 87].

In serious cases, the working conditions of hospital staff may affect patient outcomes, not only in terms of satisfaction with care but also health outcomes. Such conditions may be inadequate staffing, bad administrative support, bad interaction between nurses and doctors, and job burnout [160, 161]. The hospital staff may need support themselves, and also adequate working conditions, in order to be able to provide high quality care and good patient outcomes [86, 87, 162].

#### **5.4.2 Information and decision-making**

Paper I showed that being involved in decisions during labour was important, as was having decisions explained afterwards. Lack of opportunity to talk through the birth experience, but not 'information about progress of labour', was a predictor for overall dissatisfaction with care. The fact that 'information' was not significant in the



regression model (Paper I) can be explained by its multicollinearity with ‘opportunity to participate in decisions’. The lack of opportunity to have things explained retrospectively was specifically related to women in clusters characterised by dissatisfaction with information and decision-making (see clusters H and I, Table 4 or Paper II).

There are two things, which are important to keep in mind regarding the opportunity to be involved in decisions during labour. First, the assumption was made in Paper II that receiving adequate information was a prerequisite for making decisions. The association between information and decision-making was confirmed in a confirmatory factor analysis, when they belonged to the same common factor (Table 2). This association was theoretically supported by studies showing that women who said that they received sufficient information also experienced that their deliveries were managed according to their wishes [163, 164]. Real choice also depends on being presented with options, and having resources and alternatives that allow choice [164]. This includes being informed at a personal level and guided to interpret sensations during labour [163, 164]. Second, it is not expected that all patients or care recipients, in all situations, want to be fully informed or to take responsibility for treatment decisions. Coyle [41] showed that when patients felt uncertain about the seriousness of the situation, and knew little about the condition, or whether the situation was perceived as life-threatening, they were less likely to want to participate in decisions. However, childbearing women may differ from other patients and the system of obstetric care itself often imposes limits on alternative choices (e.g. when women fail to meet the criteria for low obstetric risk at any stage of labour) [165]. Two groups of women were identified in Paper II (See clusters H and I, Table 4 or Paper II): those who were dissatisfied with information and decision-making, and at the same time more often had a complicated delivery. This might be understood in the light of another finding by Coyle, i.e. that young women in a birth-giving situation had a particularly strong desire to be involved in decisions regarding their own bodies [41].

By isolating women with different satisfaction profiles we managed to identify a group of women who were satisfied with information and decision-making (See cluster E, Table 4 or Paper II) and at the same time more often had their infants transferred to the neonatal clinic. These women differed from the above-mentioned women in clusters H and I, who were dissatisfied with decision-making, by having a non-complicated mode of delivery, in terms of caesarean section or instrumental delivery (See Table 4 or Paper II). This finding suggests that the desire for more involvement in decisions is specifically related to decisions about the woman’s own body, as suggested by Coyle [41]. Accordingly, a recent study from the U.K. showed that the impact of caesarean birth on women’s psychological well-being, distress and satisfaction was enhanced by better communication with caregivers during labour [166]. What we do not know, however, is whether they (women in cluster E, Table 4 or Paper II) received all the information and involvement they wished to have, or whether they did not require much involvement. These women were typically highly educated which might affect the way they understood and interacted with staff. What these women did not like about their care, was the birth environment. The finding that this sizeable degree of women (15%) did not experience the birth environment as satisfactory, contradicts earlier findings about environment as influential on the birth experience [63].

Characteristics of the woman herself may also contribute to the explanation of how information and involvement in decisions was perceived. Women in some dissatisfied clusters (See clusters F, G, and H, Table 4 or Paper II) marked lower ratings on the SOC scale in early pregnancy than those in the most satisfied cluster (See cluster A, Table 4 or Paper II). This finding is in line with earlier research showing that high ratings of quality of care were positively correlated with sense of coherence [167]. Sense of coherence is assumed to capture the extent to which a person perceives the innumerable and complex stressors of the surrounding environment as possible to comprehend, manage and find meaningful [111]. It seems reasonable that the component 'lack of comprehensibility' is involved when information and decision-making are experienced as unsatisfactory.

#### **5.4.3 Information and support**

Only one third of the women (32%) were very satisfied with 'information and support', one of the dimensions of postpartum care in Paper III. The importance of providing adequate information is widely acknowledged [54, 75, 83], but helping new mothers to take in information soon after the birth is not always an easy task for the caregiver. For example, lack of sleep and concentration may hinder effective reception of information [93]. Giving extensive information during a very short period of hospital stay is another problem. Conflicting information is another dilemma [90], while nurses cannot control the existence of conflicting information they should be able to help new mothers think through and select what is suitable for them [93, 94]

#### **5.4.4 Hospital organisation and environment**

Disturbing stimuli, such as light and noise, lack of privacy and staff entering rooms unannounced, were particularly criticised issues in Paper IV. Similar findings have been reported from other countries, for instance the United States [145]. In that study, a woman's condition, e.g. postpartum complications, influenced her ability to cope with the environment on the postpartum ward [145]. However, many of the negative factors mentioned by the women in this thesis could possibly be modified if staff provided information about procedures and adjusted inconvenient conditions.

Swedish couples request more and more that postpartum care should be adapted to the needs of the entire family, not only to those of the mother and baby. This was reflected in the findings in Paper I, where postpartum wards that allowed fathers to stay overnight were more popular than others (Paper I). However, another option that has been introduced, not only to reduce costs but also to allow the family to stay together, i.e. a hotel near the hospital, was not rated as positively as one would have expected. The reasons given were related to it being impersonal, isolated, and an inappropriate environment for the newborn baby (Paper IV).

In Paper II, 15% of the women were dissatisfied with the birth environment (See cluster E, Table 4). The findings of this thesis may be related to less focus on the birth environment over the last few decades. During the 1970s and 1980s, the questioning of the medicalisation of childbirth made many hospitals transform one or more rooms into homelike birthing rooms. When renovating delivery wards, attempts were made

to make all rooms less clinical, and more homelike. Since then, the focus on birth environments has mainly been on making the delivery rooms modern and up-to-date, for instance in terms of medical equipment, toilets and showers [18].

#### **5.4.5 Breastfeeding**

Almost all mothers (98%) are exclusively breastfeeding when they leave hospital within a week after birth, and 72% still breastfeed six months after birth [168]. These figures are very high compared with many other countries. Nevertheless, breastfeeding support was a major issue in this thesis, especially in young first-time mothers (Paper III). In Paper IV it was often addressed as a problem in relation to early discharge from hospital and feelings of guilt when breastfeeding was difficult.

Supporting breastfeeding is one of the major tasks for midwives working on postpartum wards in Sweden. Even if most new mothers do not face major problems, it is a challenge to balance breastfeeding information and support with a tolerant and respectful attitude to mothers who experience difficulties. The fact that mothers are highly sensitive to critical comments has been explained by the considerable emotional distress caused by breastfeeding difficulties [92], and by the fact that such problems trigger questions of maternal capability [91]. Some mothers criticised the strong promotion of breast-feeding over bottle-feeding because it made it difficult to discuss problems in connection with breastfeeding.

The finding of Paper I that too little time allocated to hands-on breastfeeding support was associated with being less satisfied with postpartum care, was moderated in Papers III and IV. In other words, too little time was not always a problem, but rather it was a question of an inappropriate amount of time that was not tailored to personal needs (Papers III, IV). Breastfeeding support turned out to be the dimension of postnatal hospital care which elicited the most diverse responses, either positive or negative. Women were either very satisfied (50%) or not satisfied (27%). In the group of women dissatisfied with breastfeeding support, 15% were dissatisfied with too much time for breastfeeding support (Paper III).

Successful initiation of breastfeeding is one of the major goals of postnatal care [169, 170]. Caregivers and new mothers are all eager to succeed in accomplishing this task during a relatively short period of time. Those who are successful might be pleased with the support or even feel that breastfeeding gets too much attention, whereas those who are less successful may feel that information and support is insufficient. The dichotomous character of this outcome, either success or problems and failure, could possibly explain why few women are indifferent to this aspect of postnatal care. It is possible that satisfaction with breastfeeding support might increase as a result of more individualised care [147].

### **5.5 METHODOLOGICAL CONSIDERATIONS**

Methodological considerations and shortcomings will first be discussed in relation to representability of the sample and limitations of measures. Then, issues regarding statistical and qualitative analyses will be raised.

The initial aim of the KUB study was to reach a representative sample of pregnant women in Sweden. However, it was soon realised that, due to financial and time restraints, the sample had to be limited to women who mastered the Swedish language well enough to fill in questionnaires. In spite of this limitation, a fairly large group of women in the final sample, 10%, were not born in Sweden. Given that 17% of all women who gave birth in Sweden in 1999 had a non-Swedish background, the figure in our sample suggests that we reached more than half of the immigrant women who were pregnant at the time of recruitment to the study. These women may have been more integrated into the Swedish society than the non-participants who did not master the Swedish language. The prevalences of satisfied women might have decreased if we had been able to reach all the immigrant women at the time of the study. This conclusion is drawn based on a recent finding in Australia, where immigrant women were much less likely to experience birth care as very good [171].

Apart from the exclusion of non-Swedish-speaking women, we believe that our sample at the first time point was fairly representative of all childbearing women in Sweden. The characteristics of the non-respondents to the second follow-up questionnaire (See 4.4.3 Concluding results on non-response), together with the relatively low response rate (58% of those who were eligible in Paper I, 57% in Paper II, 51% in Paper III), suggest that the final sample might have been slightly skewed in a positive direction in terms of psychological well-being and health [172]. Consequently, the satisfaction ratings may have been slightly higher than in the general childbearing population.

In sum, study strengths include the large number of subjects drawn from a sizeable national sample, the wide range of information collected about the views of childbearing women, and the longitudinal approach. An additional strength was that different analytical methods were applied in order to explore potential differences in the prevalence of different outcomes. Possible study weaknesses include: exclusion of non-Swedish-speaking women, the relatively low response rate to the follow-up questionnaires, the restricted number of care domains studied and operationalisation of satisfaction/dissatisfaction and lack of conceptual clarity.

### **5.5.1 Measures**

Since the analyses were not based on standardised instruments of patient satisfaction, it might be questioned whether 'satisfaction with care' is the appropriate label for the care evaluations in this thesis. Given that different aspects of care were assessed in relation to a variety of questions and response alternatives, it is relevant to say that the focus was on the care recipients' general attitudes to several different care experiences, rather than on pure satisfaction ratings. These care experiences encompass several different aspects, ranging from the bedside manner of the midwife to the allocation of time to different tasks. Whether these rather 'indirect' measures of care should be referred to as satisfaction is a matter that can be further discussed. On the one hand, one can say that the lack of conceptual clarity would disqualify this approach as expressions of satisfaction. On the other hand, satisfaction is a multifaceted concept and the variables included should reflect the different aspects of care that a woman faces during the intrapartum- and postpartum experience.

All data, except statistics from the Medical Birth Register, in this thesis were self-reported. Thus, for instance interpersonal manner of staff, the way information was given, or the time allocated to various tasks, were not monitored and recorded with objective measures. It is possible that different results might be obtained if such measures had been used in combination with those based on women's self-reported experiences. Also, care was only evaluated from the perspective of women. It would have been valuable to investigate and compare the ratings of care by their partners as well, in order to maximise measures of quality of maternity care for both parents and better understand prospective areas for improvement. Another important area for investigation would have been the possible overlap/discrepancies between the care recipients' and the caregiver's views of care quality issues.

Another limitation of this thesis is the restricted number of care domains studied. This limitation leaves out potentially important but unexplored domains, e.g. access, availability of care, degree of met/unmet patient needs, and responsiveness to complaints [1, 25]. It would also have added strength to the thesis if data about perceived care had been complemented by information about women's ratings of how important the different aspect of care were, as in the Quality from Patients' Perspective instrument [173, 174], or by using a mother-generated index – a technique where the respondent herself determines content and scoring [175]. Also, the influence of unmet expectations represents an important correlate variable not included in the present study [139]. For the purpose of comparison with other studies a standardised instrument for measuring quality of care or satisfaction with care would have been beneficial. Such instruments and comparisons have for example been used by Ware and colleagues [1] or Wilde Larsson and colleagues [176]. Further, the dimension 'birth environment' (Paper II) could have been extended to include other areas, such as privacy, cleanliness, good security, proper temperature regulation and facilities for visitors to eat and drink [78]. In sum, having few domains to work with is problematic, especially since satisfaction is a multi-dimensional construct.

Restrictions also relate to the operationalisation of satisfaction/dissatisfaction. It cannot be ruled out that even specific satisfaction questions may not mean the same thing to all respondents, across studies and settings [177]. Coyle [49] emphasised that satisfaction and dissatisfaction may be expressed in different ways, and the assumption of a linear relationship between being satisfied and dissatisfied could be questioned. Also, 'not being satisfied' may not automatically indicate poor service but merely that it could have been better [177], and 'satisfied' does not always allude to the excellence of a service, but simply that it was adequate.

### **5.5.2 Statistical considerations**

Limitations in Paper I included the sensitivity of regression models to how variables are chosen and handled. If the choice of variables in a regression model results in either leaving out relevant or including irrelevant variables, then a biased estimate may result [119]. To ensure the inclusion of relevant variables in Paper I, numerous variables were tested in bivariate analyses in order to examine their relevance, prior to regression analyses. The problem of covariation was addressed by controlling for related variables in the regression analyses in order to ensure their exclusive relevance to the outcome. Possible interaction effects were handled by a test of

homogeneity of strata (effect modification) using a variance proposed by Mantel and Haenszel [178]. Moreover, it cannot be ruled out that dealing with variation by use of dichotomisation may have led to loss of information about individual differences, and misclassification of some individuals. The consequences of reducing information about individual differences within groups may be most problematic in relation to responses in the middle of a distribution, not at the extreme scale points.

Dichotomisation may entail instable results, incorrect estimation and interpretation of relationships among variables [179]. With regard to the results in Paper I, the most critical loss of information by the present cut-off appears to be that no distinctions were made between the ‘very satisfied’ and the ‘satisfied’.

The labelling of the clusters in Papers II and III could not cover all the measured variables but summarised the most important features. Saliency for a given variable was determined by a set of reasonable criteria of the group’s score, in relation to the general mean of that variable. It can be questioned whether the scores can be directly translated into psychologically meaningful degrees of satisfaction (‘fairly satisfied/less than satisfied’, for example). Therefore, it is important to keep in mind when interpreting the results how these labels originated, and that these labels have not been validated by qualitative means. The range of satisfaction/dissatisfaction was calculated by anchoring the interpretations to the scale at various points based on the data (e.g., 1 standard deviation below the mean). Since data in Papers II and III are positively skewed, it could be the case that these divisions do not in fact delineate dissatisfaction, but merely ‘less satisfaction’.

#### *5.5.2.1 Cluster analyses*

Clusters do not normally consist of identical members. There is room for variation even within one given cluster, albeit to a much lesser degree, that would be expected between individuals belonging to different clusters. Indeed, this is the essence of cluster analysis. The assumption that is made here is that every individual is unique but that there are groupings on a higher level that reflect similarities between individuals. Individual differences need to be taken into account in clinical practice. In the cluster analyses referred to in this thesis, the most dissatisfied clusters were generally less homogeneous than the satisfied ones, partly due to a ceiling effect imposed by the measuring instrument. In health care practice, every woman should benefit from receiving individualised care, rather than assuming that women who fall into a particular group will have the same needs and require the same approach to their care. From a methodological point of view, the structural validity of the resulting clusters was especially in focus. Several cluster validation procedures indicated that these cluster groups were not a product of chance. Simulation of artificial data sets with similar characteristics to the ones used here, as well as split-half replication analyses, was consistent with the view that these clusters are more of a “natural” kind. (i.e. that another clustering procedure would have created similar profiles) [122, 123].

Ward’s method, a hierarchical agglomerative technique, was chosen for the cluster analyses because it has been proved to achieve a well-functioning classification [125]. Ward’s method begins with each case defined as a cluster, and ends when all clusters are grouped into one large cluster consisting of the entire sample. The major disadvantage of this method is problems caused by individuals who are poorly classified at an early stage of the process [180]. Individual outliers, who are not easily

classified, and therefore create discrepancy in the solution, cause such poor early classifications. This problem was handled by using standard procedures in SLEIPNER [181]. It is crucial to be able to reproduce a classification, and the stability of a given solution may for instance be tested by replication in another sample [180]. Cluster analyses are sometimes criticised due to the fact that different algorithms may produce partly different classifications [122]. However, large differences are rare if the demand for high quality analyses in terms of explained errors sum of square, for example, is attended to.

#### 5.5.2.2 *The dilemma of 'lost information'*

The final solutions of 9 and 8 cluster respectively in Papers II and III were chosen in order not to lose important information. If, for instance, the satisfied clusters had been collapsed into one cluster, individual differences between respondents who were very satisfied and only medium satisfied would have been lost. This was a reasonable procedure, since it has been shown that satisfied users describe care as 'acceptable' or 'sufficient', in comparison with very satisfied users who describe services as 'better than average' or 'outstanding' [50]. The cost of collapsing the medium satisfied and extremely satisfied cluster profiles (or individuals who were very satisfied with one or two aspects, and medium satisfied with other aspects of care) could be high in terms of information loss. The interest in focusing on the dissatisfied users originated from the need to clarify reasons behind negative evaluations of healthcare [13, 34] in order to be able to provide more responsive care in the future [41].

#### 5.5.3 **Qualitative analysis**

In Paper IV, mainly manifest content analysis was applied, i.e. concerning the obvious components of the text. Data quality did not allow for extensive latent analysis, i.e. a coding of the 'underlying' meaning and implied feelings [131]. Inductive reasoning, i.e. going from specific observations to broader generalisations, was used when interpreting the content of the text.

Strengths of the study involved information about the participants' varied background characteristics, labour outcomes and experiences, which enhanced the possibility of shedding light on a range of critical postnatal experiences. Also, the units of analysis provided insight into experiences of postnatal care, without the researchers exerting direct influence on the informants, such as 'interviewer bias' [182]. A limitation was that it was not possible to ask follow-up questions in order to clarify ambiguities. Another restraint was the absence of information about the views of those who chose not to answer the open-ended questions. It is also important to remember that respondents tend to express strong views, in one or the other direction, when responding to postal questionnaires as opposed to data collection by personal interview [45]. On the other hand, postal questionnaires are associated with a minimum of pressure for 'socially acceptable' responses [45]. In our study, it may have been easier for some disadvantaged groups to reply, e.g. young, shy, distressed or early discharged women; and harder for others, e.g. women with writing or language problems. Half of the women who wrote a spontaneously negative comment about postpartum care, however, did this despite a positive overall assessment. This finding confirms that general assessments of care might sometimes disguise negative experiences, as suggested by Williams and colleagues [23].

During the analysis, it was sometimes a problem to balance mutually exclusive categories. Certain comments described a chain of events that affected each other. Access to care, for example, is a prerequisite for feeling helped and supported. Also, different aspects of how care was organised might explain why mothers felt neglected.

The rationale for giving information about how often a category was mentioned by the respondents was to give an idea of the significance of this category. However, such numbers do not necessarily illustrate the magnitude of a certain problem in this context of qualitative data.

Transferability of results is limited because of the self-selected sample from the KUB study. The majority (n=140, 93%) wrote their comments in the second questionnaire when memories and involvement in issues related to postnatal care were probably stronger than ten months later, in the 1-year follow-up questionnaire.



## **5.6 CONCLUSION**

By studying women's experiences of intrapartum and postpartum care using different approaches, different prevalences of dissatisfaction were found. When asked to give an overall assessment of their experiences at two months after the birth, 10% of Swedish-speaking mothers were not satisfied with intrapartum care and 26% were not satisfied with postpartum care. A more detailed analysis, including specific questions related to different aspects of care (interpersonal care, information and decision-making, information and support, the physical environment, medical check-ups and breastfeeding support) revealed a larger percentage of dissatisfied mothers. By this method, 33% were not satisfied with intrapartum care when assessments on different included dimensions were taken into account, and 47% were dissatisfied with postpartum care. These findings illustrate the complexity of care evaluations, and that single-item questions may underestimate negative experiences.

When taking all aspects of intrapartum and postpartum care into account, those related to emotional dimensions of care seemed to influence women's assessments the most. In particular, the relationship with the caregiver and the interpersonal manner of the caregiver were important. It was also important to have sufficient time for personal support, information and involvement in care decisions. Findings indicate that women should be given the opportunity to talk through their birth experience postpartum, and have the chance to air their own questions and concerns. On the postpartum ward, lack of attention to the mother herself was identified as a problem along with what was described as a "help-yourself" model. Dissatisfaction with time available for support and care, was not necessarily too short, but rather inappropriate or not tailored to individual needs. Similarly, the duration of the hospital stay was not seen as sensitive to individual needs. A lack of balanced breastfeeding information and support, as well as the absence of a tolerant and respectful attitude to mothers who experience difficulties, was reported. The physical environment, both during and after the birth, was associated with women's negative experiences of care. Smaller units and family-oriented wards, where the baby's father could stay over night, were associated with a positive experience of postpartum care.

Some maternal characteristics and health problems during pregnancy related to how care was experienced. Pregnant women who experienced many physical problems had an increased risk of a more negative assessment of both episodes of care, and the risk increased with the number or severity of symptoms. Women with higher depressive symptoms and lower sense of coherence were primarily dissatisfied with interpersonal care as well as information and decision-making during labour. The opposite was found in women who were very satisfied with postpartum care. The outcome of labour and birth, such as infant health, affected women's ratings of intrapartum care. A woman's feelings during labour also seemed to influence the way she rated intrapartum care retrospectively.

## **5.7 CLINICAL IMPLICATIONS**

The aim of this thesis was not to provide detailed guidelines for clinicians, but to try to elucidate some of the complexity associated with patient experiences of intrapartum and postpartum care. The findings may be useful for clinicians in a general sense, by showing that there are different response patterns related to the various aspects of care, and that patients are not necessarily either satisfied or

dissatisfied. The findings clearly illustrate the importance of providing individualised care. They also show that the lay–practitioner relationship is a basic component of satisfaction with care.

A reasonable conclusion to be drawn from the thesis is that attempts to improve care should focus on how support is given and received. The component that may need more attention in clinical practice is how support is perceived and experienced by the woman. Attention to the woman’s needs and individualised care requires good communication skills that give the woman time and a real opportunity to have a say.

Emergency situations, such as an emergency caesarean section or newborn transfer to a neonatal clinic, were associated with dissatisfaction with care. Such events are by definition unpredictable; the midwives and doctors are under stress and there may be little time to give information. Nevertheless, there is reason to discuss how these events can be managed in a way that may reduce patients’ experiences of dissatisfaction.

Some women were only dissatisfied with the physical environment, and the findings of this thesis suggest that the primary focus of improvements could be on mothers whose babies are transferred to a neonatal unit.

The most important message from this thesis is that postpartum care needs more attention, as this was the area associated with the highest proportion of dissatisfied women. A first step in this direction could be discussions about the aim of postpartum care, in order to obtain consistency between expectations, maternal needs and care content. These discussions should focus on how to better meet the needs of the new mother herself. The duration of the hospital stay after the birth was a problem for many women, most of whom regarded it as too short. The challenge of providing high-quality follow-up after childbirth in the light of the reduced length of hospital stay should be addressed, and alternative options, such as domiciliary visits, should be considered.

## **5.8 FUTURE RESEARCH**

It is suggested that future research should explore for whom and in what situations care requires improvement, and to develop strategies to increase individual satisfaction in new mothers as well as fathers. The individual parents should be in focus here, and comparison between mothers’ and fathers’ assessments would add to the understanding of care experiences in this context.

Future studies would benefit from combining measures of care quality and satisfaction from the perspective of both care recipients and caregiver. In this way the possible overlap or discrepancies between such ratings could be explored. To combine evaluations of subjective and more objective measures would also be advantageous.

Additional randomised controlled trials are needed in order to better evaluate the impact of length of stay, since current evidence is based on too few and too small trials. However, as early discharge is established practice in many places, the prerequisites for conducting new trials are limited. One way forward might be to introduce and evaluate different models of domiciliary support. With few exceptions, the reduction in length of postpartum stay in Sweden has not been followed by any expansion of the domiciliary services.

Future studies on how to give information at postnatal wards, with a focus on information being evidence-based, appropriate and tailored towards individual needs, are also needed.

Findings from this thesis reinforce the need for further studies and evaluation of care when staying at a hotel near the hospital, as an alternative mode of postpartum care.

An important descriptive variable for further study which has not been described here is that of unmet expectations. Another possibility for evaluating care in more detail would be to investigate both perceived care and the subjective importance of aspects of care simultaneously, as in QPP (Quality from Patients' Perspective) [173, 174] or to use a mother-generated index – a technique where the respondent herself determines content and scoring [175].

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## 7 SAMMANFATTNING (IN SWEDISH)

### **Svenska kvinnors erfarenheter av förlossnings- och BB-vård.**

Ann Rudman, Institutionen för Kvinnors och Barns Hälsa

Det övergripande syftet med denna avhandling var att undersöka kvinnors erfarenheter av förlossnings- och BB-vården i Sverige. Kvinnornas upplevelse av vården som helhet och dess olika aspekter, samt riskfaktorer för att inte vara nöjd, undersöktes i delarbetena I-III. I delarbete IV analyserades negativa upplevelser av BB-vård utifrån skriftliga kommentarer.

De fyra delarbetena baseras på ett urval av kvantitativa och kvalitativa data från den nationella prospektiva KUB-studien (Kvinnors Upplevelse av Barnafödande). Drygt 3000 svensktalande kvinnor svarade på enkäter i tidig graviditet, två månader och ett år efter förlossningen. Studiedeltagarna rekryterades i samband med inskrivningen på mödravårdscentralen vid 593 av landets sammanlagt 608 centraler, under tre veckor jämnt utspridda över ett år (maj och september år 1999, och januari 2000). Enligt medicinska födelseregistret fanns det 4600 kvinnor som var möjliga att rekrytera till studien under dessa tre veckor. Vid den första datainsamlingen var svarsfrekvensen 67 % (n=3061). I jämförelse med den svenska årskohorten som födde barn 1999 ingick signifikant färre kvinnor med utländsk bakgrund i studiepopulationen. Vid de uppföljande datainsamlingarna, två månader respektive tolv månader efter förlossningen, svarade 60 % (n=2762) respektive 56 % (n=2563).

Vid en sammanfattande bedömning av vården var 10 % av de nyförlösta kvinnorna inte nöjda med förlossningsvården och 26 % inte nöjda med BB-vården. Missnöjet ökade när man tog hänsyn till upplevelsen av specifika aspekter av vården. Dessa var: bemötande, information och medbestämmande, information och stöd, vårdmiljö, medicinska kontroller, och amningsstöd. Undersökningen av specifika vårdaspekter visade att 33 % inte var nöjda med någon av de givna aspekterna av förlossningsvården. Motsvarande siffra för BB-vården var 47 %. Dessa resultat belyser skillnader mellan olika typer av vårdskattningar, och att sammanfattande bedömningar tenderar att överskatta tillfredsställelse med vården.

Kvinnorna var kritiska till det emotionella omhändertagandet, särskilt bemötandet och kommunikationen med personalen. Kritik riktades mot brister i personligt stöd, information och möjligheter till medbestämmande. Resultaten underströk vikten av att i efterhand få prata igenom sin förlossning och få möjlighet att ta upp egna frågor och funderingar. Mammor beskrev upplevelser av att de själva fick alltför liten uppmärksamhet på BB. Mammornas kritik handlade inte alltid om brist på tid, utan på hur tiden användes. Det gällde även tidpunkten för hemgång från sjukhuset, som kritiserades för att inte vara individanpassad. Avsaknad av väl avvägd information och stöd rörande amning var en kritiserad aspekt av BB-vården. Mammor med amningsproblem kunde uppleva bristande tolerans och respekt för sina problem. Den fysiska miljön, både under och efter förlossningen, påverkade bedömningen av vården. Kvinnorna var mest nöjda med BB-vård på små sjukhus, och avdelningar där pappan kunde stanna över natten.

Mödrarnas bakgrund och hälsoproblem i tidig graviditet var i vissa fall relaterade till skattningar av vården. Exempelvis var kvinnor med många fysiska problem mindre tillfredsställda med både förlossnings- och BB-vården. Kvinnor som rapporterade högre depressiva symtom och lägre känsla av sammanhang i tidig graviditet var mindre nöjda med bemötandet, informationen och medbestämmandet under förlossningen. Omvänt gällde att kvinnor med lägre grad av depressiva symtom och högre känsla av sammanhang oftare var mer nöjda med BB-vården. Förlossningsutfallet, exempelvis om barnet överförts till barnklinik och negativa känslor under förlossningen, påverkade skattningarna av förlossningsvården.

Totalt gav 150 kvinnor negativa skriftliga kommentarer om BB-vården. De nämnde bland annat svårigheter att vila efter förlossningen, bristande hjälp med amningen, och inadekvat symtom lindring.

Sammanfattningsvis visade avhandlingen att två tredjedelar av kvinnorna var nöjda med förlossningsvården och drygt hälften med BB-vården, när frågor av mer specifik karaktär ställdes. Avhandlingens fokus på de aspekter av vården som kvinnorna var mindre nöjda med kan ge underlag för diskussioner om förbättringar av vården.



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## Appendix 1. Overview of Paper I: participants, analyses, data, purpose and time of measurement.

Paper	Participants	Analyses	Data	Purpose	Time of measurement
<b>I</b>	Women who responded to the overall assessment of intrapartum care n= 2686 and postpartum care n= 2630	1. Descriptive statistics	Two single-item overall questions about care from questionnaire	To describe the frequency of women who assessed care positive and negative	T2
		2. Logistic regression	<p>Dependent variables: Overall assessment (dichotomised) from questionnaire</p> <p>Independent variables:            9 sociodemographic background:            (i.e. age, marital status, education, employment, native language, parity, smoking during pregnancy, planning of pregnancy, support from partner during pregnancy)</p> <p>5 physical and emotional well-being:            (i.e. physical symptom index, anxiety/worry about approaching birth, the baby's health and own health (SCWS), depressive symptoms (EPDS)</p> <p>8 labour outcomes:            (i.e. obstetric analgesia; epidural, entonox, pethidine or morphine, induction, long labour, mode of delivery, newborn transfer to neonatal unit after birth)</p> <p>7 Care organisation (Hospital size (no. deliveries/year); data from MFR), model of care, length of postpartum stay, number of home visits first week after birth, domiciliary visitor, met birth attending midwife prior to labour, talked through the birth experience postpartum.</p> <p>19 variables with a woman's subjective assessments of aspects of intrapartum (7 items) and postpartum (12 items) care (see 4.3.3.2 Two months postpartum)</p>	<p>To investigate the risk of not being satisfied with intrapartum and postpartum care overall</p>	<p>Dependent variables: T2</p> <p>Independent variables:            Socio-demographic background; T1            Physical and emotional well-being; T1            Labour outcomes; T2            Care organisation; T2, T3            Variables with a woman's subjective assessment of aspects of care; T2</p>

\*T1= Early pregnancy, \*\*T2= Two months postpartum, \*\*\*T3= One year postpartum

## Appendix 2. Overview of Paper II: participants, analyses, data, purpose and time of measurement

Paper	Participants	Analyses	Data	Purpose	Time of measurement
II	Women who responded to the specific questions about intrapartum care n= 2605	1. Confirmatory factor analysis	Questionnaire items: 1. 6 items to represent 'interpersonal care' by the midwife 2. 2 items to represent 'satisfaction with information and involvement in decision-making' 3. 1 item to represent 'birth environment'	To generate the variables that are used in the cluster analysis	Two months postpartum
		2. Cluster analysis (Ward's method)	The three variables: 'interpersonal care', 'satisfaction with information and involvement in decision-making' and 'birth environment'	To find a finite set of clusters of women (categories) with similar patterns of satisfaction with intrapartum care	Two months postpartum
		3. Comparative analyses with categorical variables: Exact analyses of single cells in a contingency table	The cluster categories and categorical variables from questionnaires	To compare the clusters with respect to: 1) Socio-demographic variables: a) age, education, parity, smoking during pregnancy, marital status, country of birth, support from partner during pregnancy 2) labour outcomes: a) mode of delivery b) newborn transfer to neonatal unit	1 a) Early pregnancy 2 a) Two months postpartum b) One year postpartum
		4. Comparative analyses with continuous variables: One-way analyses of variance	The cluster categories and continuous variables from questionnaires	To compare the clusters with respect to: 1) Depressive symptoms (EPDS) 2) Sense of coherence (SOC) 3) Negative feelings: Fear, Sadness 4) Positive feelings: Happiness, Self-assurance, Attentiveness 5) Unbearable pain 6) Global rating of care	1-2) Early pregnancy 3-6) Two months postpartum

### Appendix 3. Overview of Paper III: participants, analyses, data, purpose and time of measurement

Paper	Participants	Analyses	Data	Purpose	Time of measurement
III	Women who responded to the specific questions about postpartum care n= 2338	1. Confirmatory factor analysis	Questionnaire items postnatal care: 1. 7 items to represent ‘interpersonal care’ by the midwife 2. 2 items to represent ‘physical check-ups’ 3. 7 item to represent ‘information and support’ 4. 2 items ‘assistance with breastfeeding’	To generate the variables that are used in the cluster analysis	Two months postpartum
		2. Cluster analysis (Ward’s method)	The four variables: ‘interpersonal care’, ‘physical check-ups’, ‘information and support’ and ‘assistance with breastfeeding’	To find a finite set of clusters of women (categories) with similar patterns of satisfaction with postnatal care	Two months postpartum
		3. Comparative analyses with categorical variables: Exact analyses of single cells in a contingency table	The cluster categories and categorical variables from questionnaires	To compare the clusters with respect to: 1) Socio-demographic variables: age, education, parity, smoking during pregnancy, marital status, country of birth, support from partner during pregnancy 2) Labour outcomes: a) mode of delivery b) newborn transfer to neonatal unit 3) Care organisation: a) Hospital size b) Length of postnatal stay, talked through the birth experience c) Number of home visits, domiciliary visitor	1 Early pregnancy 2 a) Two months postpartum b) One year postpartum 3 ) a) Medical Birth Register b) Two months postpartum c) One year postpartum
		4. Comparative analyses with continuous variables: one-way analyses of variance	The cluster categories and continuous variables from questionnaires	To compare the clusters with respect to: 1) Depressive symptoms 2) Sense of coherence 3) Global rating of care	1-2) Early pregnancy 3) Two months postpartum

#### Appendix 4. Overview of Paper IV: participants, analyses, data, purpose and time of measurement

Paper	Participants	Analyses	Data	Purpose	Time of measurement
IV	Women who responded with a negative comment about postpartum care on the open-ended questions n=150	Qualitative content analysis  Descriptive statistics on categorical variables, Chi-Square (proportions) and t-tests (continuous variables) Statistical significance was set at a p value of <0.05.	Written comments in response to two open-ended questions  Questions about socio-demographic background (age, parity, smoking, marital status, country of birth, support partner)  Questions about: 1. Socio-demographic variables: a) age, education, parity, smoking during pregnancy, marital status, country of birth, support from partner during pregnancy 2. Labour outcomes: a) mode of delivery b) newborn transfer to neonatal unit 3. Care organisation: a) hospital size b) length of postpartum stay c) model of postpartum care d) having talked through the birth experience, 4. Care evaluation: satisfaction with postpartum care overall	To describe women's negative experiences of hospital postpartum care, expressed in women's own words  To compare the characteristics of the women who spontaneously gave negative comments about postpartum care were compared with those who did not	Two months and/or one year postpartum  1. Early pregnancy 2. a) Two months b) One year postpartum 3. a) MFR b) Two months c) One year d) Two months 4. Two months