

## Research Article

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# Social psychological predictors of satisfaction with intrapartum and postpartum care – what matters to women in Czech maternity hospitals?

**Abstract:** Objective: To identify the social psychological factors affecting women's evaluation of care provided in Czech maternity hospitals using following criteria: satisfaction with intrapartum and postpartum care, willingness to return to a given hospital and to recommend the hospital to others.

Methods: 762 women completed a 71-item original Czech questionnaire KLI-P designed to measure the psychosocial climate in both delivery and after-birth unit on six scales. The sample was representative of the Czech parturients population. Multivariate logistic regression was used to investigate the predictive value of the questionnaire scales for maternal satisfaction, willingness to return to and to recommend a given hospital.

Results: For delivery unit, the satisfaction predictors were: helpfulness and empathy of midwives ( $X^2=48.9$ ), communication of information and availability of caregivers ( $X^2=16.6$ ), helpfulness and empathy of physicians ( $X^2=10.9$ ), symmetrical and respectful attitude of staff members ( $X^2=9.7$ ) and physical comfort and services ( $X^2=7.6$ ). The predictors of satisfaction with after-birth unit included helpfulness and empathy of the staff ( $X^2=42.1$ ), communication of information and availability of caregivers ( $X^2=52.5$ ), physical comfort and services ( $X^2=30.6$ ), control and involvement in decision-making ( $X^2=6.6$ ) and parity ( $X^2=8.6$ ). The factors influencing women's willingness to

return to and to recommend a hospital differed from the predictors of general satisfaction.

Conclusions: The satisfaction factors revealed in this research correspond predominantly to the results of studies conducted in other countries (warm, non-formal and supportive approach, sufficient and well-timed provision of information and explanation, availability of caregivers, physical environment). However, participation in decision making, which has been repeatedly shown to be among the strongest predictors of childbirth satisfaction, was not important for the Czech parturients' satisfaction with intrapartum care. This finding can be explained by different attitudes and expectations of both parturients and caregivers in a post-totalitarian country.

**Keywords:** Maternity care, satisfaction with childbirth care, patient-caregiver relationship, women's health, patient satisfaction

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## 1 Introduction

Patient satisfaction is a substantial indicator of healthcare quality. The literature survey showed that patient satisfaction should be regarded not only as a predictor of further use of healthcare services and willingness to recommend these services to others but also as a factor influencing treatment compliance and treatment success [1-4].

In the field of perinatal care, there is a particularly strong link between satisfaction with care provided and psychosomatic well-being of the client since women in labour and postpartum period are particularly vulnerable to environmental influences, especially to attitudes and behaviour of caregivers. The quality of psychosocial

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birth environment may affect obstetric outcomes such as length of labour and incidence of emergency cesarean section [5-7].

Although there is basically consensus regarding multidimensional and complex nature of the “satisfaction” construct [8-11], the concept of patient satisfaction itself is not sufficiently defined [12-14]. Given the link between satisfaction with intrapartal care and satisfaction with childbirth experience, these concepts are not necessarily separated in many studies [8,12,15,16]. However, the satisfaction with birth experience is a broader concept encompassing miscellaneous variables related to distinct aspects of a woman’s overall perception of the event, with the quality of care representing one of its key component [10,15]. In the present study, we define patient satisfaction as a complex unity of multiple variables that reflect various aspects of health care. Rather than being a mere aggregate of the separate variables, this concept shows a dynamic coherence to be seen as an intricate mesh of linked and interacting moments such as communication, information, involvement in decision making, respect for privacy, breastfeeding support. It must also be considered that evaluation of different aspects of health care is determined by the individuals’ perceptions, attitudes, expectations and preferences.

The previous research on parturients’ satisfaction mostly focused either on particular aspects of birth experience or on a wide range of aspects influencing women’s perceptions of the event, including many factors that are not related exclusively to the quality of perinatal care (e.g. expectations about childbirth, psychosocial stress during pregnancy, trait anxiety, partner support). Moreover, the women’s satisfaction with health care is usually viewed rather broadly in the studies, not specifically in relation to its psychological or psychosocial determinants. To bridge this gap, we focus on the social psychological factors of perinatal care that appear to affect patient satisfaction, attempting to cover the widest field of variables that constitute psychosocial climate in maternity hospitals.

## 1.1 Country-specific background

The Czech childbirth system is a highly medicalised and obstetrician-led model of care, with absence of independent midwifery profession, where responsibility for conduct of labour lies exclusively with the obstetrician. The majority of women give birth in maternity hospitals, the rate of home births is very low (approx. 1% of all parturients). The Czech Gynecological and Obstetrical Society takes a negative stand on home births and women are

strongly discouraged from it by referring to potential risks. According to the Health Service Act that came into force in April 2012, midwives can be imposed a penalty up to CZK 1.000.000 (approx. € 39.000) for assisting a home birth without the required authorisation. Nevertheless, there is no midwife that is granted such authorisation in the Czech Republic.

Despite the relatively high satisfaction rates (approx. 70% women were highly satisfied with care during labour and birth and 60% with after-birth care), there was a not negligible part of parturients’ population that reported lack of respect for their wishes about the conduct of birth, poor communication of information, superior and routine approach of caregivers, lack of psychological support during both labour and postpartal period and routine separation of mothers and newborns at birth [17-19]. While the Czech perinatal care has undoubtedly seen positive development during the last three decades (presence of women’s partners at labour and birth, common stay of mothers and newborns at after-birth unit, stronger emphasis on breastfeeding support), it still suffers from rather limited psychosocial performance. This outcome may reflect the difficulties of transition the Czech healthcare system continues to undergo. As Štembera and Velebil [20] put it, the transformation of the healthcare system following the political change in the Czech Republic in 1989 has not yet resulted in a satisfactory healthcare financing model and a cost-related control of the healthcare quality.

## 2 Methods

This study belongs to a broader research project aimed at evaluating the psychosocial climate in Czech maternity hospitals as perceived by parturients. Within this project, an instrument for measuring the quality of psychosocial climate in maternity hospitals (KLI-P) was developed and validated [21]. The data reported here were obtained by the final psychometric validation of the KLI-P questionnaire.

### 2.1 Instrument

The KLI-P is a 71-item self-report questionnaire consisting of six scales for both delivery (DU) and after-birth (ABU) units. The respondents rate on a 4-point Likert scale to what extent they agree or disagree with the presented statements.

The first two scales are “Helpfulness and empathy – physicians”, “Helpfulness and empathy – midwives“

for DU (7 items per scale, Cronbach's  $\alpha$  [ $C\alpha$ ] = 0.931 and 0.931, respectively) and "Helpfulness and empathy – staff employed in child care", "Helpfulness and empathy – staff employed in mother care" for ABU (8 items per scale,  $C\alpha$  = 0.929 and 0.923, respectively). The items included in those scales refer to emotional support, trustworthiness, kindness and helpfulness of the staff. The third scale "Dismissive attitude and lack of interest" contains solely negative statements detecting to what extent was personnel perceived as dominating, impersonal and unconcerned about a woman's feelings (DU 8 items,  $C\alpha$  = 0.822; ABU 6 items,  $C\alpha$  = 0.796). The fourth scale "Physical comfort and services" is designed to assess the look, arrangement and equipment of the room and satisfaction with services such as food, hygiene and cleanliness (DU 5 items,  $C\alpha$  = 0.790; ABU 7 items,  $C\alpha$  = 0.858). The fifth scale "Control and involvement in decision making" assess whether a woman's wishes, needs and choices were respected and whether she was informed of the treatment plan in advance (DU 3 items,  $C\alpha$  = 0.739; ABU 3 items,  $C\alpha$  = 0.727). The last scale "Communication of information and availability of caregivers" refers to quality and quantity of information received, clarity of explanations, willingness to provide women with information concerning breastfeeding and child nurturing and availability of caregivers when needed (DU 4 items,  $C\alpha$  = 0.795; ABU 5 items,  $C\alpha$  = 0.802).

## 2.2 Sample and data collection

The study participants included 762 Czech-speaking women who gave birth in maternity hospitals throughout the Czech Republic. This sample is representative according to the *Report on mother at childbirth 2009* drawn up by the Institute of Health Information and Statistics of the Czech Republic in terms of parturients' age, educational level, parity, and rate of vaginal and caesarean section delivery. All currently existing Czech maternity hospitals were included in our sample.

We collected data using an on-line and paper version of the KLI-P in the period from June to September 2011. The links to the electronic version of the KLI-P were placed on the web pages of mother centers and on the popular sites dedicated to new mothers. The electronic version of the KLI-P was filled out mainly by women with higher educational status. The collection of the paper version of the KLI-P was organised in cooperation with pediatricians, mother centers, reception centers for disadvantaged mothers and infant institutes.

The period from delivery to filling out the questionnaire was not limited since our aim was, inter alia, to investigate whether the care evaluation depends on the time that passed since delivery. However, majority of women (80%) evaluated the care between the 2<sup>nd</sup> and 29<sup>th</sup> month after delivery (median = 11 months).

## 2.3 Data analysis

The database management and statistical analyses were carried out using the SAS software, version 9.2 (SAS Institute Inc., Cary, USA). Unweighted frequency counts were used to describe the survey respondent characteristics. We applied the multivariate logistic regression model to investigate independent predictors of maternal satisfaction both in DU (model 1) and ABU (model 2), willingness to return to the same hospital (model 3) and willingness to recommend a given hospital to others (model 4). In order to eliminate a high number of covariates in the last two models, we searched for possible covariates using the stepwise regression procedure with the  $P$ -values for independent variables to enter and to stay in the model set at 0.10. The parameters considered covariates included age, education, course of labour, time from delivery to filling the questionnaire, parity, higher-standard room at ABU and individual scales of the KLI-P. In the next step, we performed sensitivity analyses where we replaced the missing values with the median value of the variables.

**Ethical approval:** The research related to human use has been complied with all the relevant national regulations, institutional policies and in accordance the tenets of the Helsinki Declaration

## 3 Results

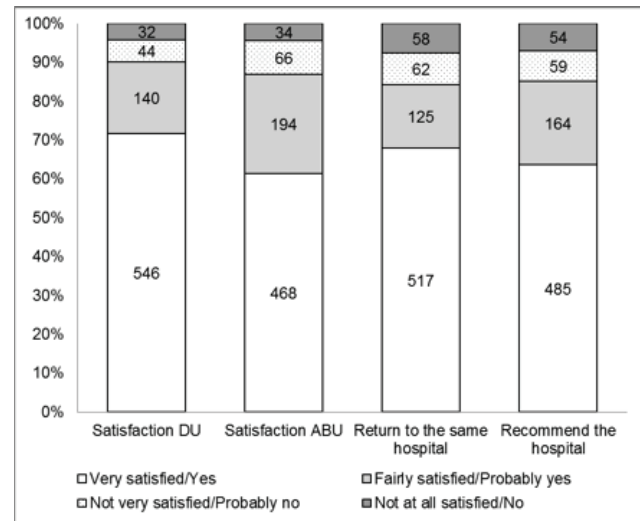
Out of 762 collected questionnaires, 479 respondents answered all questions. The women who did not answer all questions were either those with complications during delivery, or those present at the delivery unit (DU) only for a short period of time, and thus some questions did not apply to them. The socio-demographic and medical characteristics of the sample are presented in Table 1. The mean age of participating women was 29.5 (SD 4.7) years. One half of the women were primiparae (50.5%) and three quarters (77.6%) of women had vaginal labour, of which 15.4% had complications (this number does not include episiotomy and first-degree perineal rupture).

**Table 1:** Socio-demographic and obstetric characteristics (N = 762)

<b>Age, years (SD)</b>	<b>29.5 (4.7)</b>
Age range, years	16 – 43
Time from delivery to filling a questionnaire, months (SD)	13.4 (10.8)
Time from delivery to filling a questionnaire, months (range)	0.3 – 66.0
Above-standard room, (%)	165 (21.6)
Educational level	
Basic, (%)	77 (10.1)
High school, (%)	169 (22.2)
High school with graduation, (%)	332 (43.6)
University, (%)	184 (24.1)
Parity	
Primipara, (%)	385 (50.5)
Multipara, (%)	377 (49.5)
Course of delivery	
Vaginal, (%)	501 (65.7)
Vaginal with complications, (%)	91 (11.9)
Planned cesarean section, (%)	63 (8.3)
Emergency cesarean section, (%)	107 (14.1)

Figure 1 shows frequencies of answers on questions regarding the satisfaction with care provided at DU and after-birth unit (ABU), willingness to recommend the hospital to others and willingness to return to and give birth in the same hospital. Seventy two and sixty one percent of respondents were highly satisfied with care at DU and ABU, respectively. Out of 762 respondents, only 32 (4.2%) and 34 (4.5%) were strongly dissatisfied with the care they received at DU and ABU, respectively. Majority of women were willing to return and give birth in the same hospital as well as to recommend the given hospital to others (68% and 64 %, respectively; Figure 1). The individual scales of the questionnaire were inter-correlated with each other ( $r \geq 0.25$ ;  $P < 0.001$ ) but not with age ( $r \leq -0.06$ ;  $P \geq 0.090$ ); the only scale correlated with age was „Dismissive attitude and lack of interest“ both at DU and ABU ( $r \geq 0.12$ ;  $P \leq 0.005$ ). The best rated scale was „Control and involvement in decision making“ at ABU while the same scale at DU received the worst evaluation score.

The predictors of satisfaction with care at DU and ABU are reported in Table 2. For DU, the strongest satisfaction predictors were helpfulness and empathy of midwives ( $X^2=48.9$ ) and communication of information and

**Figure 1:** Frequency of answers to the outcome questions. Number of each answer is given.

availability of caregivers ( $X^2=16.6$ ). Satisfaction with DU was also improved by helpfulness and empathy of physicians ( $X^2=10.9$ ), symmetrical, respectful and concerned attitude from all staff members (scale „Dismissive attitude and lack of interest“, reverse-scored;  $X^2=9.7$ ) and physical comfort and services ( $X^2=7.6$ ). Age and parity proved to be statistically insignificant predictors.

The predictors of satisfaction with ABU included helpfulness and empathy of the staff ( $X^2 \geq 42.1$ ), communication of information and availability of caregivers ( $X^2=52.5$ ), physical comfort and services ( $X^2=30.6$ ), control and involvement in decision making ( $X^2=6.6$ ) and parity ( $X^2=8.6$ ). These variables accounted for 35% and 30% of the variance of satisfaction with care at DU and ABU, respectively. The sensitivity analysis in which the missing values were replaced with the median value for each answer confirmed the main results for DU (data not shown).

The predictors of willingness to return to and to recommend the hospital are indicated in Table 3. The most important predictors of willingness to return to the same hospital were helpfulness and empathy shown by staff employed in child care at ABU ( $X^2=25.5$ ) and by midwives at DU ( $X^2=11.9$ ), physical comfort and services at DU ( $X^2=18.7$ ), respectful and concerned attitude from all staff members at DU (scale „Dismissive attitude and lack of interest“, reverse-scored) ( $X^2=18.3$ ), and control and involvement in decision-making during labour and birth ( $X^2=12.4$ ). In the sensitivity analysis in which all respondents were included, helpfulness and empathy shown by physicians at DU proved to be a significant predictor ( $X^2=18.2$ ) while dismissive attitude and lack of interest perceived at ABU was no longer significant.

**Table 2:** Predictors of satisfaction with care (model 1, model 2)

	$\beta$	$\chi^2$
Delivery Unit (DU), N = 479		
Age, years	-0.060	3.36
Time from delivery to filling a questionnaire, months	0.025*	4.00
Parity	0.251	1.97
Helpfulness and empathy – physicians	0.112**	10.96
Helpfulness and empathy – midwives	0.245***	48.95
Dismissive attitude and lack of interest	0.107**	9.70
Physical comfort and services	0.078**	7.60
Control and involvement in decision-making	-0.025	0.15
Communication of information and availability of caregivers	0.283***	16.58
After Birth Unit (ABU), N = 762		
Age, years	-0.036	1.98
Time from delivery to filling a questionnaire, months	0.004	0.22
Parity	0.436**	8.63
Above-standard room	0.106	0.78
Helpfulness and empathy – staff employed in child care	0.227***	75.62
Helpfulness and empathy – staff employed in mother care	0.161***	42.10
Dismissive attitude and lack of interest	-0.033	0.82
Physical comfort and services	0.125***	30.65
Control and involvement in decision-making	0.158*	6.62
Communication of information and availability of caregivers	0.336***	52.54

$\beta$  = regression coefficient;  $P$  for significance of regression coefficients: \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.0001$ .  
As for delivery unit, only respondents who answered all questions were included in present analysis.

The factors significant for willingness to recommend a given hospital are as follows: physical comfort and services at DU ( $X^2=33.3$ ), helpfulness and empathy shown by staff employed in child care at ABU ( $X^2=22.8$ ) and by midwives at DU ( $X^2=17.7$ ), control and involvement in decision-making during labour and delivery ( $X^2=14.3$ ), symmetrical, respectful and concerned attitude of all staff members at DU ( $X^2=13.8$ ), communication of information and availability of caregivers at DU ( $X^2=6.7$ ), and time elapsed from delivery to filling the questionnaire ( $X^2=8.6$ ). The sensitivity analysis including all respondents revealed helpfulness and empathy shown by physicians at DU as a significant predictor ( $X^2=26.8$ ).

Educational level and course of labour did not affect any of studied parameters ( $P > 0.34$ ). Therefore, they were not included in the final models.

## 4 Discussion

The purpose of this study was to identify the psychological and psychosocial criteria serving as independent explanatory variables associated with women's satisfaction with the care received in maternity hospitals. In a representative sample of 762 parturients we tested four satisfaction models: overall satisfaction with care at delivery unit (DU) (model 1), after-birth unit (ABU) (model 2), willingness to return to the same hospital (model 3) and to recommend the hospital to others (model 4).

The factors recognised as predictive for satisfaction with perinatal care included warm, non-formal and supportive approach, sufficient and well-timed provision of information and explanation, availability of caregivers, and physical environment. These results are in

**Table 3:** Predictors of willingness to return to the same hospital and to recommend this hospital (model 3, model 4).

	$\beta$	$\chi^2$
Willingness to return to the same hospital, n = 479		
Age, years	-0.022	0.59
Time from delivery to filling a questionnaire, months	0.028*	6.41
Parity	0.166	1.14
Above-standard room	0.001	0.00
Helpfulness and empathy – staff employed in child care	0.110***	25.45
Physical comfort and services – DU	0.111***	18.69
Dismissive attitude and lack of interest – DU	0.119***	18.27
Control and involvement in decision-making – DU	0.196**	12.39
Helpfulness and empathy – midwives	0.103**	11.94
Communication of information and availability of caregivers – DU	0.133*	5.18
Willingness to recommend given hospital, n = 479		
Age, years	-0.017	0.35
Time from delivery to filling a questionnaire, months	0.031**	8.62
Parity	0.190	1.60
Above-standard room	0.180	1.59
Physical comfort and services – DU	0.149***	33.34
Helpfulness and empathy – staff employed in child care	0.103***	22.79
Helpfulness and empathy – midwives	0.128***	17.74
Control and involvement in decision-making – DU	0.206**	14.34
Dismissive attitude and lack of interest – DU	0.101**	13.79
Communication of information and availability of caregivers – DU	0.150**	6.74

$\beta$  = regression coefficient;  $P$  for significance of regression coefficients: \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.0001$ . DU refers to delivery unit.

accordance with previous research [22-26]. However, in our hands, personal control and participation in decision making, which have been repeatedly shown to be among the strongest predictors of childbirth satisfaction [8,10,22-25,27], were not important for satisfaction with intrapartum care. Interestingly, these factors only played the role in postpartum care where they mainly applied to mothers' involvement in decision making related to care provided to their newborn children. This finding could imply that the Czech parturients are often prone to relying on guidance of healthcare professionals during labour and delivery where they mostly assume a rather passive attitude. Nonetheless, the importance of personal control during labour and birth increased when women evaluated

healthcare quality in terms of their willingness to return to the same hospital and to recommend it to others.

This finding could lead to more general, not only country-specific conclusions that women probably take into account different aspects of care when rating their overall perinatal care satisfaction and when deciding about their future place of birth. Whereas satisfaction with intrapartum and postpartum care is predicted mainly by helpfulness, empathy and provision of information, willingness to return to and to recommend a given hospital increases (besides helpfulness and empathy of midwives and staff employed in child care at ABU) primarily with better physical environment and equipment at DU and higher personal control at DU, while provision of information plays a role of a less relevant (but still significant) predictor. It

should be therefore examined whether the criteria related to practical outcomes provide more accurate and empirically valid factors of healthcare quality than the criteria of general satisfaction.

There is also another interesting finding that arises from our investigation. What turned out to be important for the satisfaction construct is the dimension “Dismissive attitude and lack of interest”, consisting solely of negatively worded items. Our results may indicate some negative aspects of the current Czech health care system, such as overloaded and financially undervalued staff, poor psychological care to be provided to the healthcare professionals, the patient regarded rather as a subordinate than as a client. More generally, this finding could imply that measuring satisfaction should also take into consideration the issues of dissatisfaction in order to reach a more realistic picture of care evaluation, which was already suggested by other authors [9,24].

Women’s evaluation of intrapartum care was higher than their evaluation of postpartum care which is in accordance with other studies [24,28]. It was also found that the overall evaluation of care received in a maternity hospital is determined to a lesser degree by the postpartal care as compared to the care during labour and delivery. Moreover, our results demonstrated that midwives’ attitudes (helpfulness, empathy) are far more important not only for satisfaction with care during labour and birth, but also for willingness to return to and to recommend the hospital than those of physicians. For satisfaction with postpartal care as well as for willingness to return to and to recommend the hospital are more relevant the attitudes of staff employed in child care than attitudes of staff employed in mother care.

In contrast to some other studies [24,29], our data showed that the satisfaction with care was unaffected by age, educational level and labour outcomes. However, we identified parity as a satisfaction predictor, but only for the postpartal care. This finding may be explained by the fact that the most predictive item for satisfaction with the postpartal care referred to breastfeeding support that matters mainly to primiparae.

Our study should be interpreted within the context of its limitations. First, some respondents found it hard to assess caregivers falling into one category (midwives, obstetricians etc.) as a whole, which could have led to some distortions. Second, we did not limit the time elapsed from delivery to filling the questionnaire, though majority of women (80%) evaluated the care between the 2<sup>nd</sup> and 29<sup>th</sup> month after delivery. Third, this study was based only on the questionnaire data which might have affected the accuracy of information concerning labour complications.

In conclusion, our results suggest that in order to improve satisfaction with care in maternity hospitals the main efforts need be directed primarily at midwife support during labour and delivery and at communication and provision of information by staff employed in child care. In this regard it is also required to strengthen psychological competence of health care professionals, especially in communication, and deepen their knowledge in perinatal psychology. Special attention needs be paid to the prevention and treatment of the burn-out syndrome among the healthcare staff. Accordingly, more emphasis should be put on the interdisciplinary approach to labour and birth, based on closer cooperation between healthcare professionals and psychologists, which is admittedly rather poor in the field of perinatal care in the Czech Republic. Achieving higher quality of perinatal care in its psychological dimension would not only raise women’s satisfaction with delivery and hospital care but also make primiparae feel safe and comfortable during the postpartal period, which could, *inter alia*, positively influence the early mother-child interaction as well as the start of breastfeeding [30-32]. Their satisfaction with the childbirth experience is also a factor reducing the risk of postpartum mood disorders or posttraumatic stress disorder related to delivery [33-36] while enhancing their parental self-efficacy [37] and may have both immediate and long-term effect on the relation of the woman to her child or partner [38]. The intervention in this field can thus be considered effective prevention of potential social pathologies.

The satisfaction factors identified in this research correspond predominantly to the results of studies conducted in other countries, though some differences were found. These differences can be explained by the ongoing transformation of the healthcare system in the Czech Republic and by different attitudes and expectations of both parturients and caregivers in the post-totalitarian country and may be therefore only temporary. Further research is needed to reinforce such explanation.

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