

# Maternal satisfaction with the care provided by hospitals with different levels of reference

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## Abstract

The system of three-level organization of perinatal care assumes the provision of ambulatory and hospital services in order to improve the quality of perinatal care, manifested by the decrease of morbidity and mortality in mothers, foetuses and infants.

The following research problem was posed: Does the referral level of hospitals exert an effect on mothers' satisfaction with care?

A standardised questionnaire form EUROPEP was applied to evaluate the level of mother satisfaction with care. The study was carried in 2008 in maternity wards at 5 hospitals of various referral levels in the Lublin Region, and covered 500 mothers. The results obtained were subject to descriptive and statistical analysis.

It was observed that mothers hospitalized in the first referral level hospitals evaluated care provided by midwives in the most positive terms, while those in hospitals of the second referral level expressed the most negative opinions.

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## Introduction

The system of 3-level organization of perinatal care has been functioning in Poland since 1995. This system assumes the provision of ambulatory and hospital services in order to improve the quality of perinatal care, manifested by the decrease of morbidity and mortality in mothers, foetuses and infants [2,4].

The units within the system of health services realize specified functions on an individual referral level of the system, including the following:

- the first referral level – care is provided for infants and pregnant women with physiological course of pregnancy, unexpected complications during pregnancy, delivery and puerperium period are primarily secured; these are maternity wards in municipal and provincial hospitals;
- the second referral level – covers with care pregnant women and infants with a moderate degree of risk (regional hospitals);
- the third referral level – concerns the management of high risk pregnancies and deliveries, and treatment of most severely ill infants. This level is organized in the form of a regional perinatal centre for the whole region. In the regional centre, the preliminary evaluation of new methods of treatment and diagnostics are developed, education is provided for medical staff and health promotion programmes are being implemented – clinical hospitals [1,2,4].

High quality care based on so-called good medical and obstetric practice, with the use of all means available should minimise the risk of health loss, and simultaneously fulfil the expectations of patients [12,13].

Hence, the following research problem was posed: Does the referral level of hospitals exert an effect on mothers' satisfaction with care?

## Material and methods

In order to assess the level of mother satisfaction with care, a standardised EUROPEP questionnaire

was applied consisting of 5 modules of care, with 23 specified elements of care evaluated according to the Likert Scale. The source version of this questionnaire was designed for the patients of family physicians [1,3,5]; therefore, selected detailed elements of care have been modified to adjust them to the specificity of tasks of a midwife working in a rooming-in system. A division into 5 modules of care has been preserved: A – Relations midwife-patient and her family; B – Medical-technical care; C – Informing and supporting the mother; D – Availability and accessibility of a midwife; and E – Organization of medical services. The materials concerning health care contained 23 detailed elements of care.

The patients evaluated each element of care according to the Likert Scale from 1-5, i.e. 1 – 'I am very dissatisfied' to 5 – 'I am very satisfied'.

The study was carried in 2008 in maternity wards at 5 hospitals in the Lublin Region. These were hospitals of various referral levels, 2 of them functioned as first referral level hospitals, the subsequent 2 – as second referral level hospitals, whereas 1 hospital was a regional perinatal centre (third level). The study covered 500 mothers on the day of discharge from hospital. The results obtained were subject to a descriptive and statistical analysis. The significance of the differences between the traits examined was investigated by  $\chi^2$  test. In order to compare more than 2 groups a one-way analysis of variance was used, after the previous testing of the uniformity of variance by the Fischer test. A 5% level of significance was adopted, and associated with it the level of significance  $p < 0.05$ .

The respondents' ages ranged from 17-45. The greatest number of women were aged up to 25 (41.00%), followed by those aged 26-30 (33.80%), and mothers aged 31 or over (25.20%). The greatest number of respondents possessed a secondary school education level (40.80%). The subsequent positions were occupied by patients with university education – 28.20%, vocational school – 23.40%, and elementary school – 7.60%. As many as 52.00% of respondents were urban inhabitants, while the remaining 48.00% lived in rural areas.

## Results

Mothers evaluated care provided in first referral level hospitals in the most positive terms (mean evaluation value 3.88), while the lowest evaluations were expressed in hospitals of the second referral level (mean evaluation value 3.64); the data obtained were statistically significant ( $p=0.000001$ ) (Table 1).

In addition, the patients were more satisfied with the care provided in hospitals of the first referral level than those of the second referral level ( $p=0.000001$ ). A similar situation was observed between hospitals of the third and the second referral level ( $p=0.0002$ ) (Table 1).

Analysis of the results showed significant differences ( $p=0.00002$ ) in evaluations within the Module A – Relations midwife-patient and her family, and the highest mean evaluation value – 3.68, was obtained in mothers from hospitals of the first referral level. Simultaneously, these mothers were more satisfied than patients from hospitals of the second referral level ( $p=0.000004$ ). Similarly, mothers from the hospital of the third referral level expressed a greater satisfaction with the module of care discussed, compared to women hospitalized in hospitals of the second referral level ( $p=0.01$ ).

Significant differences ( $p=0.01$ ) were noted with respect to the evaluation of Module B – Medical-technical care. Patients from the third referral level hospital expressed the greatest satisfaction (mean evaluation value 4.28). Also, they were more satisfied than women hospitalized in hospitals of the second referral level ( $p=0.01$ ). Similarly, mothers hospitalized in the first referral level hospitals expressed greater satisfaction, compared to those from the second referral level hospitals ( $p=0.009$ ).

Statistically significant differences ( $p<0.000001$ ) were also observed in the evaluation of the Module C – Informing and supporting the mother, in favour of the hospital with the third referral level (mean evaluation value 3.76). At the same time, the above-mentioned patients, as well as those who were hospitalized in hospitals of the first referral level expressed a greater satisfaction than mothers from hospitals of the second referral level, with the level of significance  $p<0.000001$  for both hospitals.

A slightly different situation was noted within the Module D – Availability and accessibility of a midwife. Significant differences ( $p=0.00007$ ) were observed in the evaluation of this module of care, with the highest mean evaluation value obtained from mothers in hospitals of the first referral level. At the same time, these patients were more satisfied with care than those hospitalized in hospitals of the second referral level ( $p=0.00001$ ). Nevertheless, the latter expressed a greater satisfaction, compared to women from the hospital of the third referral level ( $p=0.02$ ).

Significant differences in the evaluation of care were also noted within the Module E – Organization of medical services, with the highest mean evaluation value – 3.98, obtained from mothers in hospitals of the first referral level. These patients, similar to those hospitalized in the third referral level hospital, were more satisfied than women from hospitals of the second referral level –  $p=0.00002$  and  $p=0.03$  respectively.

## Discussion

The system of 3-level perinatal care is associated with the realization at each stage of specified functions aimed at the improvement of the quality of care of mother and child [2,4]. 'Quality' should be considered in the context of offering professional services and obtaining an improvement of the state of health of a patient (society), as well as satisfying patient's expectations with respect to health, contributing to satisfaction with the care obtained [8,10,11,12,13]. Medical staff are often convinced that the maximum effectiveness of treatment of a patient is the most important aspect of services provided by them [10]. However, according to the results of the studies, this attitude is not entirely correct. Although the mothers hospitalized in the hospital of the third referral level were more satisfied with Module B – Medical-technical care (mean evaluation value 4.28) and Module C – Informing and supporting the mother (mean evaluation value 3.76), the realization of the remaining aspects of care did not fully satisfy their expectations. According to the principles of the organization of perinatal care hospitals of the third referral level, they provide care for mothers and infants at high

**Table 1.**

Evaluation of care and referral level of hospitals

No.	Evaluation of care in individual modules	Referral level of hospitals		
		First	Second	Third
		Mean evaluation value	Mean evaluation value	Mean evaluation value
1.	A – Relations midwife-patient and her family <b>Mean evaluation value – 3.51</b>	3.68	3.36	3.46
2.	B – Medical-technical care <b>Mean evaluation value – 4.20</b>	4.22	4.14	4.28
3.	C – Informing and supporting the mother <b>Mean evaluation value – 3.52</b>	3.63	3.29	3.76
4.	D – Availability and accessibility of a midwife <b>Mean evaluation value – 3.86</b>	3.91	3.83	3.81
5.	E – Organization of medical services <b>Mean evaluation value – 3.84</b>	3.98	3.74	3.79
Mean evaluation value in general		3.88	3.64	3.80

## Analysis of variance

Level of significance of the differences (**F=14.40; p=0.000001**) in evaluation of care between mothers hospitalized in hospitals of various referral levels; between the first and the second referral level hospitals (**p<0,000001**); and the third and the second level (**p=0.0002**).

Level of significance of the differences (**F=11.02; p=0.00002**) in evaluation of care in **Module A - Relations midwife-patient and her family**; between mothers hospitalized in hospitals of the first and the second referral level (**p=0.000004**); and the third and the second level (**p=0.01**).

Level of significance of the differences (**F=4.04; p=0.01**) in evaluation of care in **Module B – Medical-technical care**; between mothers hospitalized in hospitals of the first and the second referral level (**p=0.009**); and the third and the second level (**p=0.01**).

Level of significance of differences (**F=20.30; p<0.000001**); differences in evaluation of care in **Module C – Informing and supporting the mother**; between hospitals of the first and the second level of referral (**p<0.000001**); and the third and the second level (**p<0.000001**).

Level of significance of the differences (**F=9.75; p=0.00007**) in evaluation of care in **Module D – Availability and accessibility of a midwife**; between hospitals of the first and the second referral level (**p=0.00001**); and the second and the third (**p=0.02**).

Level of significance of the differences (**F=9.38; p=0.0001**) in evaluation of care in **Module E – Organization of medical services**, between hospitals of the first and the second referral level (**p=0.00002**); and the third and the second level (**p=0.03**).

risk of health loss [2,12]. Hence, the requirement of intensive treatment and care from the medical-technical aspect, as well as from the aspect of relation midwife-patient and her family, also availability of the staff providing care and cooperation of the medical team, which may be confirmed by the results of the studies obtained. An opposite situation was noted with respect to mothers from the first referral level hospitals. These mothers showed a deficiency of care within Modules B and C.

Low level of satisfaction with provision of information and support by medical staff was also confirmed by other authors, and the results presented in these studies concerned not only obstetric care, but also other specialities [3,5,9]. The reason for this phenomenon may, on the one hand, be sought for in the growing awareness of patients who to an increasingly greater extent wish to participate in the process of treatment and nursing, but for the other hand, in the insufficient preparation of medical staff for the realization of activities in this area [6]. It may be presumed that these factors exerted an effect on the level of mother satisfaction obtained in the studies, especially that the awareness of women concerning perinatal care is increasing [7,10]. It can only be regretted that this increase is not always accompanied by the awareness of medical staff, which is frequently based exclusively on medical standards, without taking into consideration the expectations of the patients. It is not enough to assume that patients who had a physiologic delivery (most often hospitalized in the first referral level hospitals) require less attention and engagement because they are capable of moving more efficiently, and their state of health is not at risk.

An issue also to be considered is the fact that patients hospitalized in the second referral level hospitals were the least satisfied with care. This is alarming, because the majority of deliveries in Poland take place in units of this level [2].

The presented report does not assess the efficiency of the system of care of mother and child or the lack of efficiency. Efforts were undertaken to confirm that the improvement of the quality of care requires knowledge and understanding of the various levels of this problem in health care, in such way that the

results of care are desired and expected both by the providers and recipients of health services.

## Conclusions

1. Mothers hospitalized in hospitals of the first referral level evaluated the care provided in the most positive terms, while those from second-referral level hospitals expressed the lowest evaluations.
2. Significant differences noted in evaluations of individual modules of care, which were in favour of mothers from first referral level hospitals, concerned the following: A – Relations midwife-patient and her family; D – Availability and accessibility of a midwife; and E – Organization of medical services.
3. Care provided by midwives in maternity wards within the Module B – Technical-medical care, and Module C – Informing and supporting the mother, turned out to be most satisfactory for patients hospitalized in the third referral level hospital.

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