

Pasat Package Program in the evaluation of perinatal care quality in the Podlasie province in the light of the World Health Organization guidelines

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Abstract. Evaluation of health care quality in perinatal period based on particular statistical data and Pasat package program might be a good measure of a particular hospital's functioning. In order to evaluate the level of perinatal care, WHO guidelines ought to be implemented. Patients' satisfaction is considered the main criterion in this evaluation. Thus, the aim of the study was individual evaluation of perinatal care at a particular obstetric facility in the Podlasie province taking into account WHO guidelines. The study was implemented with the use of: questionnaire interview compiled for the study and standardized tool compiled by Health Care Quality Monitoring Center in Cracow – PASAT package. WHO guidelines are implemented to a limited extent. In the province the number of C-sections refers to 1/3 of the participants (35%). Less than a half of the women (45%) had induced labor. The level of patients' satisfaction from perinatal care in the Podlasie province is satisfactory. Improvement and educational–organizational actions are required as regards to WHO guidelines implementation in terms of: decreasing the percentage of C-sections, decreasing medical interventions by the reduction of induced labor percentage and encouraging pregnant women to go into physiological labor in vertical positions.

Introduction

In the modern world health care system requires new directions in obstetric actions. Perinatal interdisciplinary care, most of all effective perinatal care, ought to be carried out by specialized obstetric and neonatology staff. The actions are aimed at meeting biological and psychical needs of the mother and the baby. This assumption requires implementation of actions in accordance with current medical knowledge and standard procedures by health care providers of the pregnant woman and her family. A new era in obstetrics is a time of implementing standards and procedures of perinatal care which are a great chance in obstetrics but also a threat due to lack of

professionalism in performing obstetrician's work. Quality evaluation of perinatal care based on particular statistical data is a commonly acknowledged measure of health protection in a particular country and thus an indicator of economic and health conditions as well as a reflection of society's background.

Aim

Perinatal care in the Podlasie province is implemented according to the system of regional reference. Most labors (81.9%) are performed in facilities of I and II level. Study on the quality of services and determination of potential differences depending on hospital referral level are considered as basic actions in the complex system of reproduction health care. Patients' satisfaction is considered to be the main criterion in this evaluation. Therefore, the aim of the study was individual evaluation of perinatal care at a particular obstetric facility within the Podlasie province taking into account World Health Organization's guidelines. Particular elements referred to are:

1. Implementation of WHO guidelines (difference evaluation depending on referral level)
2. Quality and course of prenatal care (difference evaluation depending on referral level)

Materials and methods

The study was conducted upon the approval of Bioethical Committee of Medical University of Bialystok (R-I-003/310/2006).

The study was performed by means of:

- A. questionnaire interview compiled for the study in the Department of Obstetrics, Gynecology and Obstetrics/Gynecological Care,
- B. standardized questionnaire interview compiled in the Health Care Quality Monitoring Center (CMJ) in Cracow, called PASAT package.

PASAT package is a tool that uses a questionnaire compiled and tested in CMJ allowing for the analysis of patients' expectations and satisfaction from medical care. The questionnaire comprises of two parts: part I – PASAT package questionnaire, part II – own questionnaire.

The questionnaire was completed by patients of public health care facilities of randomly chosen 6 hospitals of I^o referral level within the Podlasie province:

1. Independent Public Healthcare Center in Hajnowka
2. Independent Public Healthcare Center in Monki
3. Independent Public Healthcare Center in Bielsk Podlaski
4. General Hospital in Grajewo
5. Independent Public Healthcare Center in Siemiatycze
6. Independent Public Healthcare Center in Sokolka

and 3 hospitals of II^o referral level:

1. Cardinal Stefan Wyszyński Provincial Hospital in Łomża
2. Independent Public Provincial Hospital in Suwałki
3. Independent Public Healthcare Center, J. Sniadecki Provincial Hospital Complex in Białystok

from May 1st 2003 to August 31st 2006. The study included 1000 women chosen randomly during puerperium on obstetric wards who filled in the questionnaire on the day of discharge, put it into an envelope and next put sealed envelopes to a specially labeled box. After completion of the questionnaire stage 942 intact (sealed) envelopes were obtained.

Statistical data

Data obtained from 942 properly filled questionnaires was transferred to specially prepared application forms of MS ACCESS database. The results were analyzed statistically by CMJ by means of PASAT, a licensed program.

The comparison was presented on diagrams in form of graphic presentation of answer distribution in pie, doughnut and bar charts as well as histograms.

The presentation of answer distribution in form of histogram is one of the graphic ways of presenting distribution of a particular property. It consists of many rectangles placed on coordinate axis. On one side the rectangles are determined by class intervals of property value while their height is determined by the number (or frequency) of elements included in a particular class interval. This type of graphic presentation was used for the evaluation of nurse and doctor care over the woman and the newborn on the scale from 1 to 10.

Results

Mean age of all the participants (942 persons) was 27.6 years. The youngest patient for labor was 16 years old, the oldest – 48. The most numerous group were mothers aged 26–30 years (35.04%, i.e. 330) [Tab. 1].

Tab. 1. Patient age range

Patient age range	Number of people	Percentage of people
16–20	68	7.21%
21–25	279	29.62%
26–30	330	35.04%
31–35	186	19.74%
36–40	63	6.69%
> 41	16	1.69%
Overall	942	100%

1/3 of the participants had higher education, i.e. 300 (32%) and the same number of patients had secondary education – 32%, i.e. 304 women. 87 (9%) had primary education while 160, i.e. 17% completed vocational school [Fig. 1].

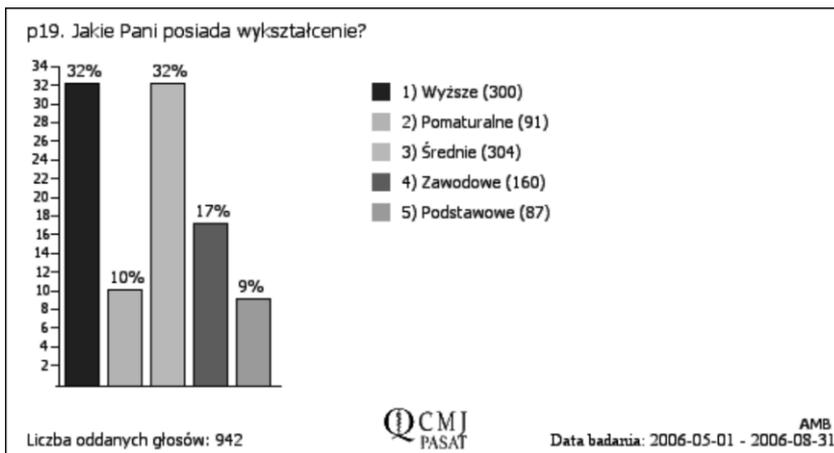


Fig. 1. Education

Implementation of WHO guidelines – evaluation of differences depending on referral level. Type of labor in hospital

In the Podlasie province in the studied period the most numerous group – 604 (64%) were women who gave birth physiologically, in a natural way. In 191 women (20%) C-section was performed due to emergency reasons. A planned C-section (elective) was performed on 139 women (15%). Obstetric forceps and cephalotractor cup were used in 8 pregnancies [Fig. 2].

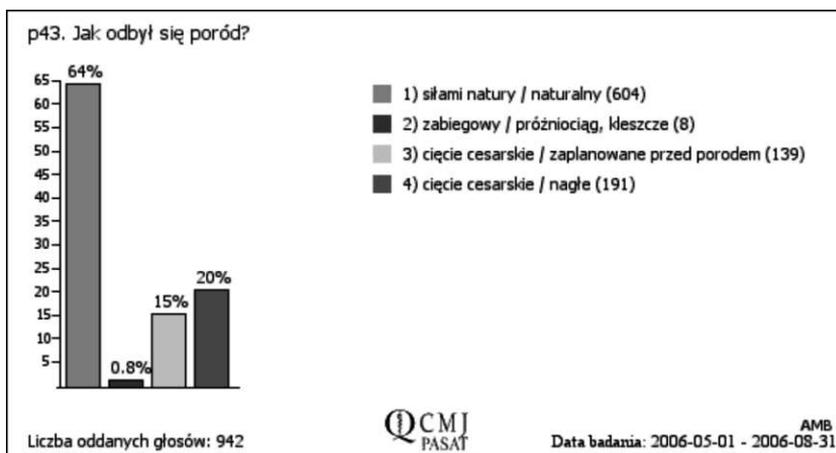


Fig. 2. Type of labor in hospital

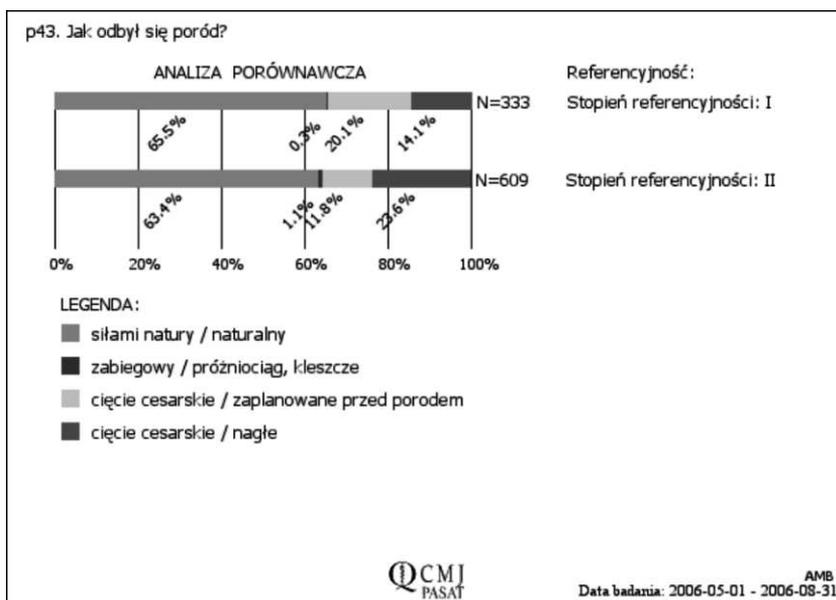


Fig. 3. Hospital referral level and type of labor

Emergency C-sections were considerably more numerous (23.6%) in II° hospitals. Percentage of natural labors is similar: I° referral level – 65.5%, II° – 63.4% [Fig. 3].

Labor medicalization. Inducement – “bringing about” labor

According to the participants, labor induced by an intravenous oxido-xin infusion was performed in 368 (39%) women in labor. Amniocentesis

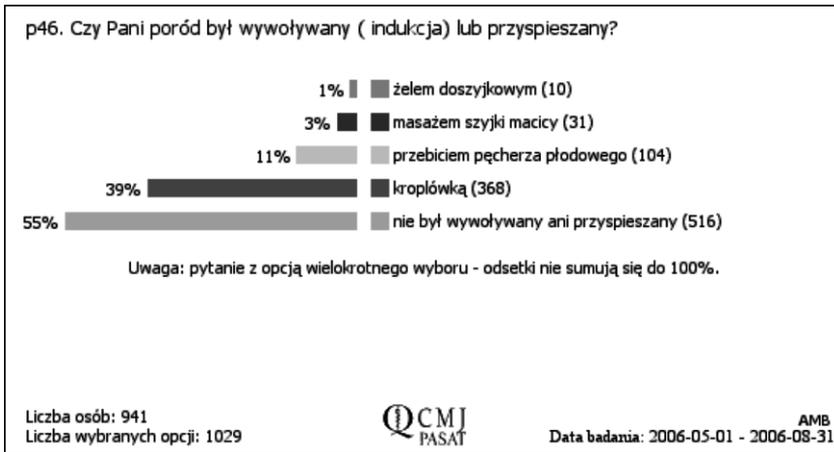


Fig. 4. Inducement – “bringing about” labor

was performed in 104 patients (11%). Other methods of inducing labor were applied in 41 (4%) women (cervical massage, intracervical gel). No actions influencing the labor were undertaken in the case of 516 women (55%) [Fig. 4].

In II^o referral level hospitals intravenous oxidocin infusion was used more frequently to induce the labor (42%). In I^o referral level hospitals 61% of labors were carried out with no pharmacological action while in II^o level hospitals – 52%. Other options lack significant differences in both types of hospitals.

Position during II labor stage

462 women (75%) lied flat on the back during the labor. In certain hospitals the participants gave birth in knee-elbow position which referred to 66 women (10.78%). 74 women (12.09%) gave birth sitting on a labor chair. Questionnaire indicated also other positions (on the side, squatting, half-sitting) yet they referred only to 10 cases (1.63%).

In I^o hospitals 37.9% of women went into labor in different vertical positions while in provincial hospitals – 17.3% [Fig. 5].

Routine episiotomy

The women in labor were asked: “did you have episiotomy?”. Among women who went into labor in a natural way, 449 (74%) had episiotomy. The question did not include differentiation between primiparae and multiparae. Primiparae amounted to 491 women in the whole group [Fig. 6]. Episiotomy was performed more frequently in II^o hospitals (77.3%) compared to district hospitals (67.6%) [Fig. 7].

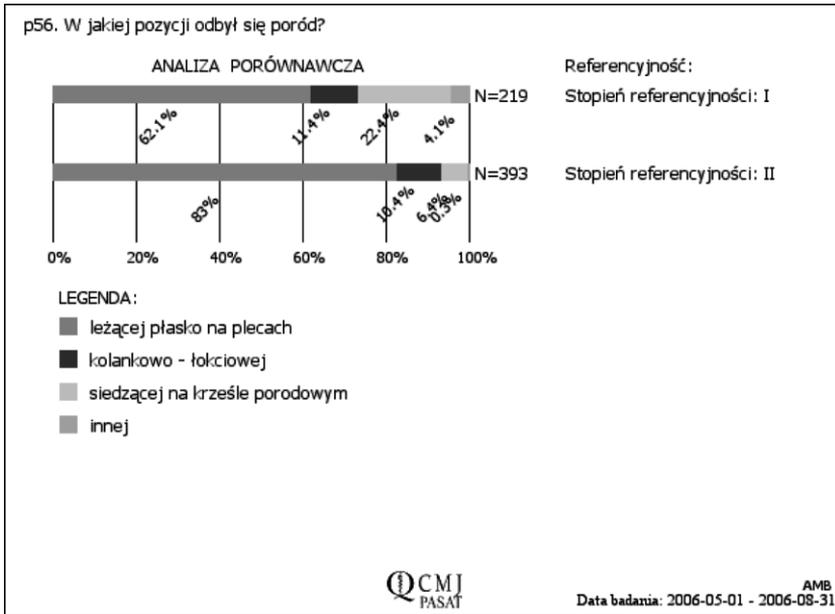


Fig. 5. What was the labor position? – comparative analysis of hospitals

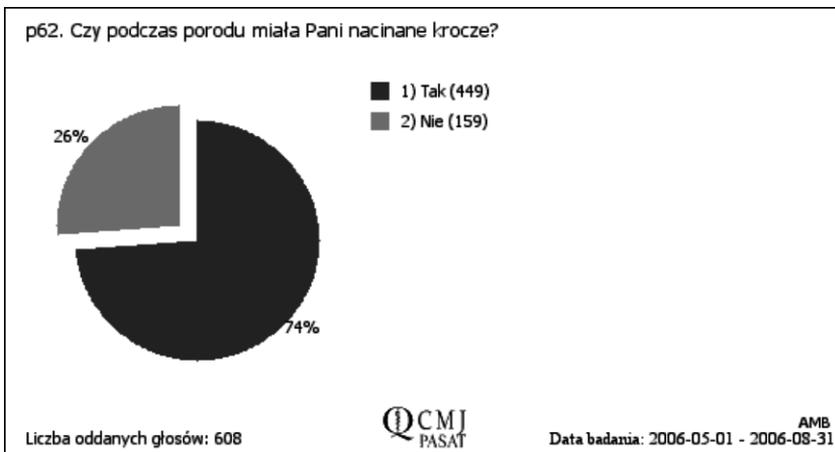


Fig. 6. Episiotomy

Skin-to-skin contact of a mother and a newborn following physiological labor and Caesarian section

Direct skin-to-skin contact was implemented in the case of 573 labors (61%). 3 mothers (0.3%) decided that postpartum condition of the baby did not allow for the contact [Fig. 8].

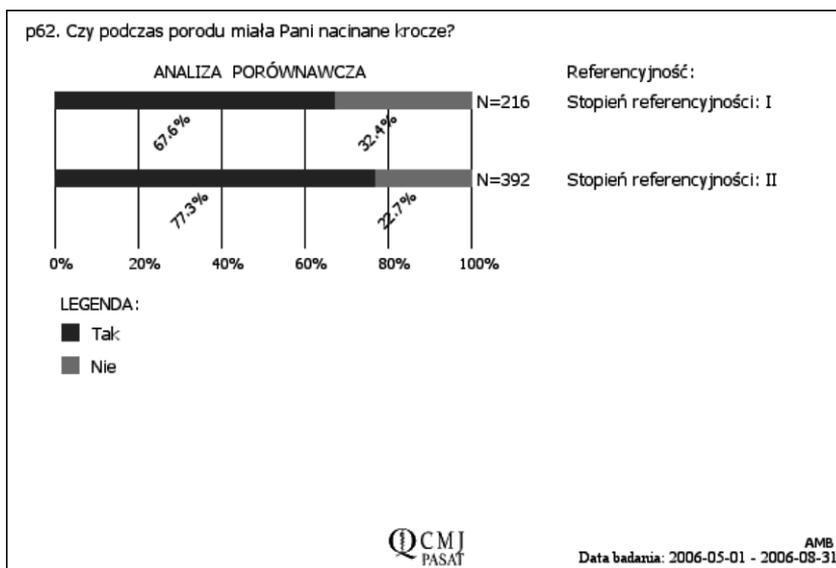


Fig. 7. Episiotomy in I° and II° referral level hospitals

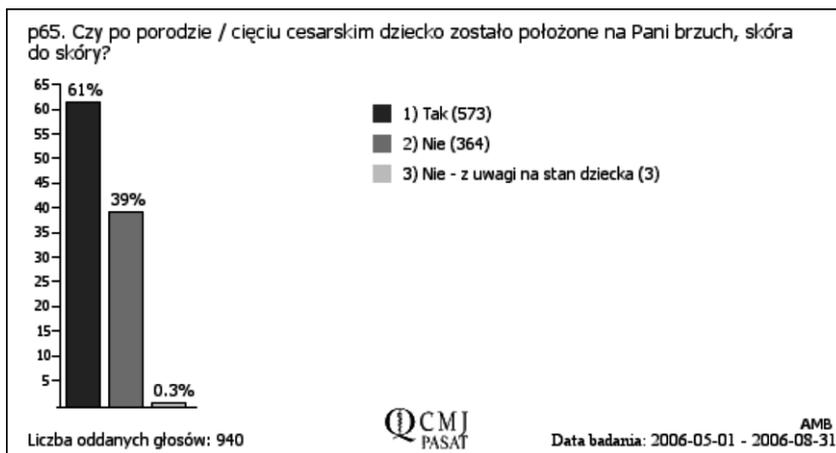


Fig. 8. Skin-to-skin contact

In I° hospitals newborns were placed on mother’s abdomen in 67% of the cases while in II° hospitals in 57.7% [Fig. 9].

Duration of skin-to-skin contact

As regards to the question “how long was a newborn held by the mother”, 274 participants (48%) answered “only for a moment”, 213 (37%) “only for a few – a dozen or so minutes”, 84 women (15%) were with the baby for the whole time [Fig. 10].

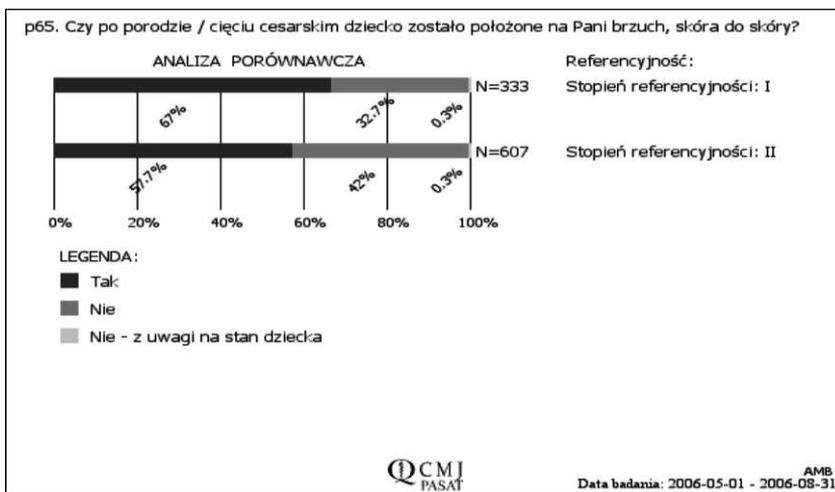


Fig. 9. Placing a newborn on mother's abdomen in I° and II° referral level hospitals

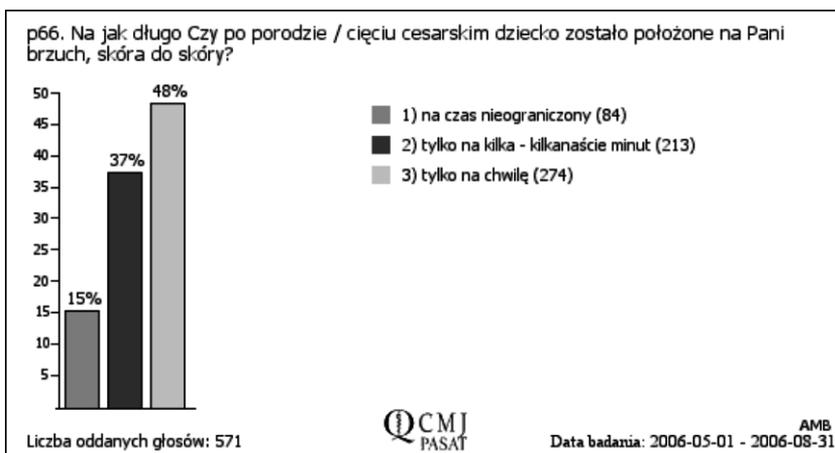


Fig. 10. Duration of leaving the baby on mother's abdomen

In I° level hospitals the baby was on mother's abdomen without limitations in 17.6% of patients while in II° hospitals – 12.9%. Percentage of mothers who held their babies only for a moment was similar in I° and II° hospitals and amounted to 48.6% and 47.6% respectively [Fig. 11].

Pre-labor enema

On admission to obstetric wards pre-labor enema was not performed in 614 patients (66%). The procedure was performed in the other 322 women [Fig. 12].

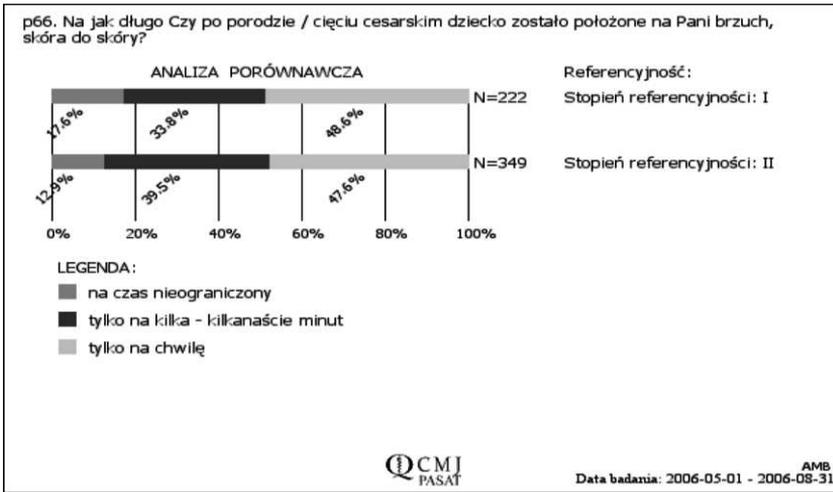


Fig. 11. Duration of leaving the baby on mother's abdomen in I° and II° referral level hospitals



Fig. 12. Enema on admission for labor

In I° hospitals the procedure was performed in 23.2% of women in labor while as regards II° facilities, the percentage is higher and amounts to 40.6% [Fig. 13].

Pre-labor pubic area shaving

Labor shaving was performed in 471 women (50%). About 0.5% of patients did it at home [Fig. 14]. According to comparative analysis, II° level hospitals perform this procedure in 53.2% while I° hospitals in 44.9% [Fig. 15].

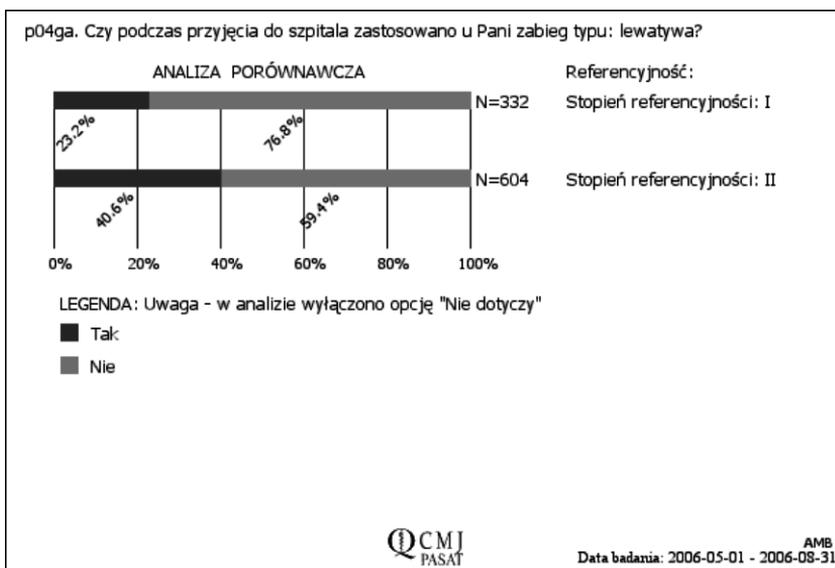


Fig. 13. Enema on admission for labor in I° and II° referral level hospitals

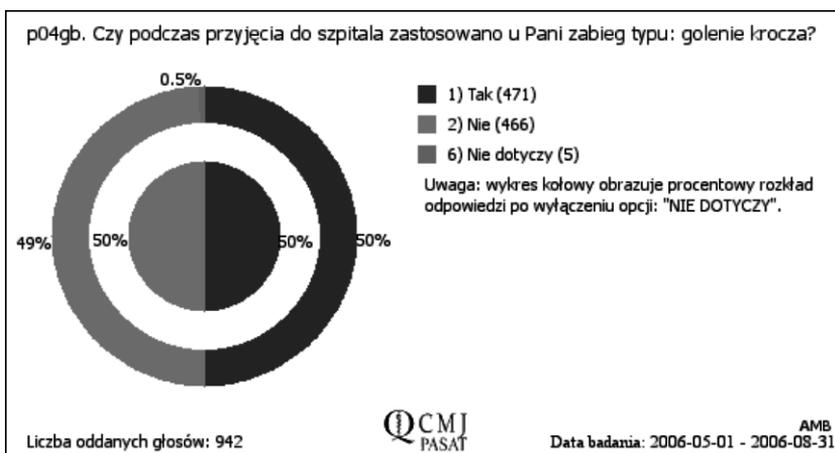


Fig. 14. Pubic area shaving on admission for labor

Quality and course of prenatal care – evaluation of differences depending on referral level

The questionnaire included an issue of patients' satisfaction from prenatal care. The question was: "did you attend ante natal clinic in the current pregnancy?". A group of 805 women (85%) answered "yes" while 137 (15%) did not attend the clinic at all [Fig. 16].

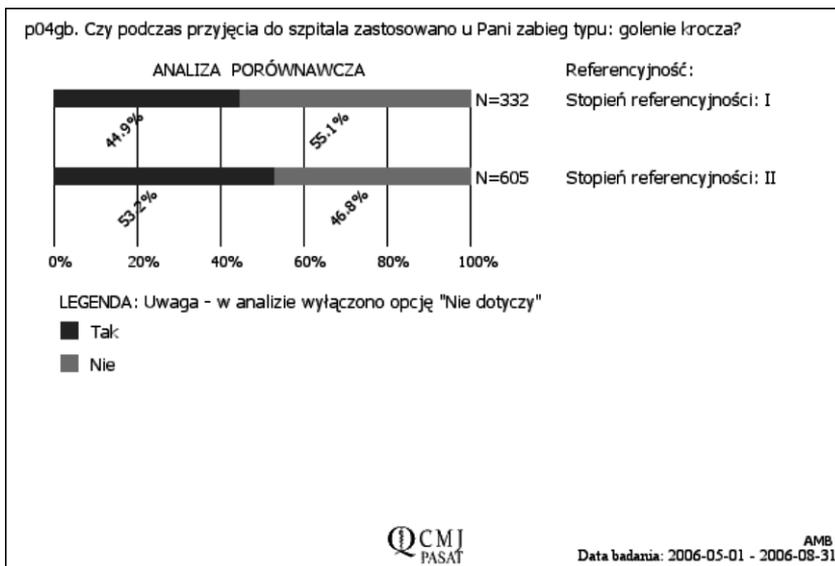


Fig. 15. Pubic area shaving on admission for labor in I° and II° referral level hospitals

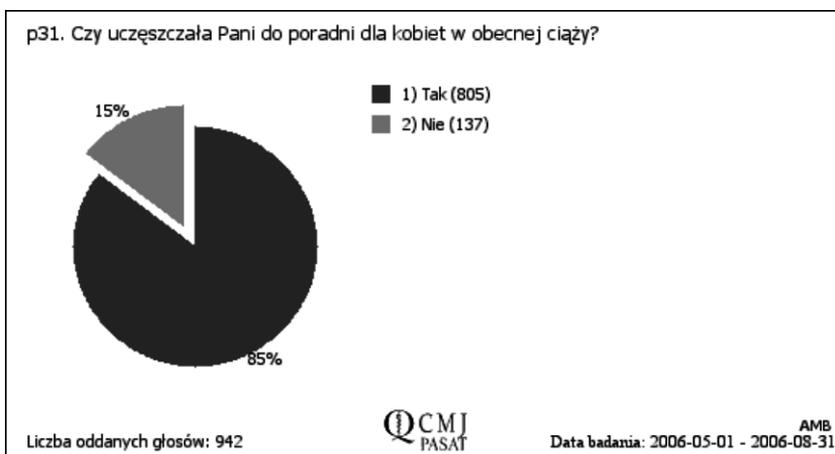


Fig. 16. “Did you attend ante natal clinic in the current pregnancy?”

As regards to women attending Woman’s Health Center, 705 (87%) reported to the gynecologist regularly – every month. A group of 71 women (9%) reported to the center every two months while 35 (4%) every three months [Fig. 17].

As regards public / free clinic, its services were used by 564 women (67%) while 277 (33%) went to private paid facilities [Fig. 18].



Fig. 17. Frequency of visits in Woman's Health Center

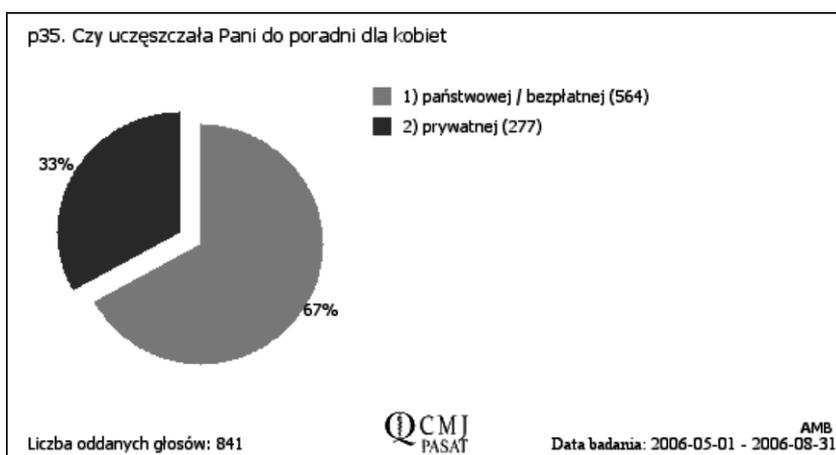


Fig. 18. Type of woman's clinic – public or private?

Discussion

According to WHO, the highest goal is the right of a unit to the best possible health and thus the right to the best possible health care. On one hand, it means that everybody ought to have access to medical services. On the other hand, the services should have proper quality.

In 1991 member states of WHO European Region accepted a regional program within the program "Health for everyone in 2000" which includes point 31 of the following content: "until 200 all the member states ought to prepare procedures and structures that will provide a constant increase in

quality of medical services as well as development and better use of medical technologies". For the said purpose, regular monitoring, evaluation and promotion of service quality are necessary [1–2].

The concept of constant quality improvement was reflected in a document compiled by WHO European Regional Committee called: "Health 21 – health for all in 21st century". The main goal is point 16 – management of medical care quality – of the following content: *"until 2010 management of health sector in member states should be oriented at health outcomes starting with health population programs to individual clinical care over a patient"* [2–3].

Attempts to evaluate the quality of health care in Poland arouse various emotions. Importantly, service quality is becoming a popular subject, improvement actions are undertaken and this is related to the increased commercialization of health service.

The term *quality* (gr. *poiotes*) was first defined by Plato as "certain level of perfection". In those times it was a philosophical term and it has remained this way until modern times. To put it differently, quality is a particular standard or level of perfection which constitutes a border between intentions (willingness) and possibilities (reality). Numerous philosophical disputes established the following: quality has objective and measurable features, such as mass and shape, as well as subjective which are evaluated differently by everyone, such as color or smell [4].

Quality is strictly connected with the level of satisfaction. Patient's satisfaction depends on differences between what they receive and their subjective expectations. If the difference is positive, the patient is satisfied while if it is negative – dissatisfied.

In the process of providing health services, mutual relations between a woman in labor and obstetrician/nurse might be defined according to Maré in the so called soft aspects which are: cooperation and aid in care, explaining the procedures, kindness, patience and sufficient information, which results in the expected satisfaction [5].

Labor conducted in a direct way might have impact on the evaluation of obstetric staff work. Standard procedures compiled by numerous scientific associations enable application of the most suitable solutions according to medical data which is based on evidence.

In 1985 WHO decided that optimal percentage of C-sections for saving the life and health of mothers and newborns is between 10% and 15%. One of the main arguments for the legitimacy of the increase in Caesarian sections is a decrease in perinatal mortality. However, many worldwide studies do not confirm this dependency [6].

According to Lech et al., the percentage of C-sections in the nineties of the previous century amounted to 15% in Poland, about 23% in the United States while in the years 1999–2005 in Poland it was 18.2–27.2% [7]. Wróblewski et al. show that the number of C-sections within the years 1994–2001 in Poland increased and oscillated between 13.8 and 21.1% [8]. In our material 35% of women out of 942 individuals had C-section (both not planned / emergency and planned before the labor – elective).

According to Kubicka-Kraszyńska and Otfinowska, data obtained by Childbirth with Dignity Foundation from 2003 indicate that episiotomy was performed approximately in 57.5% of labors, in 79% of primiparae and 36% of multiparae [6]. In 82% of departments the percentage limit of C-sections established by WHO is exceeded. According to data from 2006, the procedure was performed in 80% [6, 9–11].

Eason et al. evaluated the influence of routine episiotomy on development of its severe damage based on Medline database from 1966–1999 [12]. They showed that episiotomy fails to both protect anal sphincter and prevent incontinence as well as that it is the cause of pain. A great study by Szamotulska and Mierzejewska conducted in 1999 on a large group of women in labor (2600) showed that routine episiotomy was performed in 72% of individuals [13]. Our material indicates similar results. Routine episiotomy was performed in 74% of all the physiological labors.

A significant problem in modern medicine is the inducement of labor. Poniedziałek-Czajkowska et al. believe that the percentage of induced labors in Poland might amount to 9.5–33%. In the United States the number of induced labors has doubled [14]. According to the participants, in the Podlasie province hospitals in 2006 a pharmacologically induced labor was performed in 39% of cases while 11% of patients had amniocentesis.

The possibility of going into labor in various positions proves high quality of obstetric care. The 17th point of WHO guidelines refers to woman's free choice of labor position [10]. Szamotulska and Mierzejewska claim the performance of metaanalysis of 19 studies which included 5764 women from different countries. The best body position in labor was studied (upright, sitting with the use of stools or labor chair, squatting or lying). The outcomes showed that upright or side-lying positions shortens the second labor stage compared with back-lying or lithotomic position (lying on the back with legs up) [13].

According to the study by “Childbirth with Dignity Foundation” from 2006, women were positioned supine in 32% [6]. Suchocki et al. claim that in 71.5% women went into labor in a traditional supine position [15]. In the Podlasie province hospitals of I° and II° referral level women gave birth in

a traditional way (supine) in 75% while the other percentage referred to vertical positions. Similar data is indicated by Kubicka-Kraszyńska, Otfinowska as well as Grabarczyk et al. in studies by “Childbirth with Dignity Foundation”. In 2000 49.3% of women in labor were imposed lying flat on the back position while in 2006 – 50% [6, 16].

Next analyzed aspect referred to post-labor skin-to-skin contact with a newborn. For the last decades separating newborns from mothers as well as limiting and controlling their further contact were a routine procedure. “Baby Friendly Hospitals”, an initiative by WHO and UNICEF, were aimed at changing it. WHO guideline is as follows: “the mother and the baby should be in body-to-body contact immediately after the labor or within 5 minutes after it; the contact should last at least 1 hour unless medical reasons for delaying the contact occur” [6].

In hospitals within the Podlasie province 61% of women could hold the newborn immediately after the labor. The babies remained with their mothers for “unlimited time” only in 15% of cases, “for a dozen or so minutes” in 37% of the cases while in the other cases “only for a moment”. It was observed that early skin-to-skin contact of mothers and their healthy babies has a positive influence of the newborn in further hours of life, on breastfeeding in 1–3 months after the labor and on better interactions between a mother and the baby [13, 17]. Mikiel-Kostyra et al. in the study of dependencies between newborn feeding and post-labor procedures in hospitals evaluated implementation of skin-to-skin contact indications which in the studied group amounted to 77.2% [18].

Conclusions

- 1) The analysis confirms that patients’ level of satisfaction from perinatal care in the Podlasie province is satisfactory.
- 2) Improvement and educational actions are necessary as regards to the implementation of WHO guidelines in terms of:
 - a) decreasing the percentage of Caesarian sections
 - b) decreasing medical interventions by reduction in the percentage of induced labors
 - c) encouraging pregnant women to go into physiological labor in vertical positions.

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