

Referrals during Labor in Midwifery Care

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Abstract

In 2008, 84% (459) of 548 women with pregnancies initially considered “low risk” requested to give birth under midwifery care at Japanese Red Cross Katsushika Maternity Hospital. Of these, 42% (191) were referred to obstetric care during labor at term; however, we found no evidence that midwifery primary obstetric care is less safe for women with “low-risk” pregnancy than is standard obstetric care. Therefore, we recommend that midwifery care be promoted with an international collaborative effort.

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Key words: maternity care, midwife, obstetric care, referral

Midwifery primary care for women with “low-risk” pregnancies during labor has been reported to have various advantages, such as higher maternal satisfaction and fewer unnecessary medical procedures^{1–3}. Although the maternity care system in Japan for women with “low-risk” pregnancies cannot easily be compared with systems in other countries, consumer demand for the “humanization” of obstetric care has appeared in various countries. This study examined obstetric outcomes of women with “low-risk” pregnancies related to the referral from midwives to obstetricians at our hospital in Japan.

In our hospital, a major perinatal care center in Tokyo, women with term pregnancies initially considered “low risk” can choose between midwifery care and standard obstetric care. The midwifery care during labor is usually performed in a Japanese-style *tatami* mat delivery room (**Fig. 1**), which allows the pregnant women to be as relaxed as in her own home⁴. They can also choose from among several birthing positions, such as the recumbent (supine or



Fig. 1 Labor with knee position in a Japanese-style *tatami* mat delivery room at the Japanese Red Cross Katsushika Maternity Hospital.

lateral), sitting, and knee positions, for comfortable labor⁵. In cases managed by independent midwives, many confounding factors, such as oxytocin infusion, epidural anesthesia, episiotomy and instrumental delivery, were not present.

Factors that indicated that pregnancies were not “low-risk” were as follows⁴: 1) history of medical

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Midwifery Care during Labor

Table 1 Obstetric outcomes of pregnancies initially considered as 'low risk' at Japanese Red Cross Katsushika Maternity Hospital (2008)*

Maternal request	Obstetric care	(Total)	Midwifery care (No referral)	(Referrals)
Numbers	89	459	268	191
Maternal age				
Average (years)	33 ± 5	32 ± 5	32 ± 5	32 ± 5
≥35 years	33 (37%)	149 (32%)	92 (34%)	57 (30%)
Primiparous	49 (55%)	218 (47%)	80 (30%)	138 (72%)**
Gestational age at delivery (weeks)	39.6 ± 1	39.6 ± 1	39.4 ± 1	40.1 ± 1
Birth weight				
Average (g)	3,060 ± 436	3,029 ± 422	3,056 ± 461	2,986 ± 382
≥3,500 g	4 (4.5%)	30 (6.5%)	22 (8.2%)	8 (4.2%)
Apgar score (1 minute)				
Average	8.8 ± 0.7	8.8 ± 0.6	8.9 ± 0.5	8.7 ± 0.6
<7	1 (1.1%)	2 (0.4%)	0	2 (1.0%)
Apgar score (5 minutes)				
Average	9.5 ± 0.6	9.5 ± 0.6	9.6 ± 0.5	9.4 ± 0.6
<7	0	0	0	0
Umbilical artery pH				
Average	7.26 ± 0.06	7.26 ± 0.07	7.27 ± 0.07	7.24 ± 0.07
<7.2	16 (18%)	70 (15%)	29 (11%)	41 (21%)
<7.1	0	7 (1.5%)	3 (1.1%)	4 (2.1%)
Abnormal delivery				
Assisted (vacuum/forceps) delivery	7 (7.9%)	31 (6.8%)	—	31 (16%)
Cesaren delivery	5 (6.5%)	10 (2.2%)	—	10 (5.2%)
Total	12 (13%)	41 (8.9%)	—	41 (21%)
Postpartum hemorrhage ≥1,000 mL	2 (2.2%)	22 (4.8%)	13 (4.9%)	9 (4.7%)

* Values are presented as means ± standard deviations or number (percentage).

** $P < 0.01$ vs. No referral group by χ^2 test.

complications, including preeclampsia, chronic hypertension, diabetes mellitus, renal disease, idiopathic thrombocytopenia, and other systemic illnesses; 2) history of gynecologic complications, including *in vitro* fertilization, congenital uterine anomalies, uterus myomatosus, and adnexal anomaly; 3) history of obstetric complications, including narrowing of the pelvic outlet, cephalopelvic disproportion, cesarean section, anal sphincter injury, postpartum hemorrhage >1,000 mL with blood transfusion, manual removal of the placenta, gestational diabetes, and severe preeclampsia; 4) complications during the present pregnancy, including obesity (maternal body mass index before pregnancy ≥ 25 or during the third trimester ≥ 28 or both), anemia (hemoglobin <9.0 g/dL), epilepsy with treatment, polyhydramnios, oligohydramnios, low-set placenta, placenta previa, fetal growth restriction, heavy for dates fetus, gestational diabetes, and preeclampsia; 5)

complications during labor: intrauterine infection, meconium staining, prolongation of labor, uterine inertia, arrest of labor, non-reassuring fetal status. When these factors occur, the pregnant women were referred for treatment by obstetricians (standard obstetric care) in a Western-style delivery room or operating room.

In this study, we compared obstetric outcomes of women with "low-risk" pregnancies between midwifery primary obstetric care and standard obstetric care at the Japanese Red Cross Katsushika Maternity Hospital in 2008. The examined factors of characteristics of patients and obstetric outcomes were as follows: maternal age, parity, gestational age at delivery, birth weight, Apgar score, umbilical artery pH, delivery mode, and postpartum hemorrhage. The protocol for this analysis was approved by the Ethics Committee of the Japanese Red Cross Katsushika Maternity Hospital. In addition, informed consent concerning analysis from

a retrospective database was obtained from all subjects.

Student's *t*-test was used for continuous variables, and the χ^2 test was used for categorical variables. Odds ratios and 95% confidence intervals were also calculated. Differences with $p < 0.05$ were considered significant.

Table 1 shows the obstetric outcomes of pregnancies initially considered "low risk" in 548 women at our hospital in 2008. Before labor at 34 to 36 weeks' gestation, 84% (459) of patients requested to give birth under midwifery care. However, 42% (191) of them were referred to obstetric care during labor at term. The main indications for referral during labor were nonreassuring fetal status (39%), failure of labor to progress (38%), >24 hours of premature rupture of membranes at term (14%), and meconium-stained amniotic fluid (9.4%). Although the incidence of referrals in the primiparous women was significantly higher than that in multiparous women (odds ratio: 6.1; 95% confidence interval: 4.1–9.2; $p < 0.01$), there were no significant differences in the rate of the indications for referral between the primiparous and multiparous women. In addition, there were no significant differences in obstetric outcomes in women with "low-risk" pregnancies between those who had referrals from midwives to obstetricians during labor and those who did not. All pregnant women who had referrals accepted the sudden change in situation.

We felt uneasy about our current referral rate from midwifery care to standard obstetric care of 40%; however, we were somewhat relieved to discover similar trends in Dutch midwifery care¹. From 1988 through 2004, a continuous increase in the referral rate from midwives to obstetricians was observed in the Netherlands¹. Because malpractice lawsuits and litigation are reportedly still exceptional in Dutch midwifery¹, "defensive medicine" may not

play a large role as an incentive for the referrals. Therefore, these trends may be due to the birth process becoming more medicalized on a global level.

The sample size of our study was small; however, we found no evidence that for women with "low-risk" pregnancies midwifery primary obstetric care is less safe than standard obstetric care, if obstetricians and midwives cooperate. In addition, we believe that prenatal education by midwives in our hospital for women with "low-risk" pregnancies contributes both to the obstetric outcomes that are not affected by referrals and to the acceptance of the sudden referrals by pregnant women. To date, midwifery obstetric care has been reported to be associated with increased maternal satisfaction¹⁻³. Therefore, we also recommend that midwifery care be promoted with an international collaborative effort.

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