Perinatal care rates of the first Hospital House of Birth in Poland

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Introduction. According to the definition of the International Confederation of Midwives, the midwife is recognized as a responsible and accountable professional who works in partnership with women to give the necessary support, care and advice during pregnancy, labor and the postpartum period, to conduct births on the midwife's own responsibility and to provide care for the newborn and infant. Aim. The aim of this study was to describe the experience of the Birth Center at the St. Sophia Specialist Hospital in Warsaw (BC SSSH) during the first five years of its operation.

Material and methods. In this quantitative, descriptive and retrospective study, the medical documentation of 3,743 women who began to give birth at BC SSSH has been analysed. Maternity and neonatal indicators have been assessed. Results. In thestudied group, 15.5% of women left the birth center before labor, and 79.5% of women gave birth naturally. No maternal or perinatal deaths were reported. The percentage of transfers of women in labor amounted to a total of 14.9%, and decreased by half in five years. The most common cause of transfers was failure to progress (29% of all transfers). Among the transferred women, 60.6% gave birth naturally and 15.4% underwent caesarean sections. Babies born with an Apgar score below 8 points accounted for 0.4%. Conclusion.. Obstetric and neonatal outcomes among women who gave birth at the BC SSSH indicate high safety of delivery in this setting. Women who give birth at the BC SSSH mostly experienced non-medicated births, and babies were born in a good condition.

Keywords: birthing centers; midwife-led care; obstetric outcome

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Word count: 2517 Tables: 5 Figures: 0 References: 30

Received:09.10.2019Accepted:11.11.2019Published:27.12.2019

INTRODUCTION

According to the definition of the International Confederation of Midwives, the midwife is recognized as a responsible and accountable professional who works in partnership with women to give the necessary support, care and advice during pregnancy, labor and the postpartum period, to conduct births on the midwife's own responsibility and to provide care for the newborn and infant [1]. The scope of responsibility, competence and the education system of midwives varies depending on the region of the world [2,3]. Most often, however, the midwife's profession is characterized by a high degree of independence. As Sargent writes: "in the context of professionalism, autonomy is a privilege granted by society, which allows those who have undertaken certain types of professional education or training to practice within a framework of self-regulation" [4]. This autonomy is most strongly manifested in the areas of independent midwifery [5].

The profession of midwife in Poland was legally recognized as independent in 1996 [6]. In 2011, several tasks were added to the health services belonging to the midwife's competence. These were: taking care of women in physiological pregnancy, including conducting specific tests; referring women for tests to identify highrisk pregnancy; guiding physiological delivery with fetal monitoring and, if necessary, episiotomy; as well as providing neonatal care and health education in the field of family planning and preparation for parenthood. In the absence of a doctor, a midwife in Poland is entitled to perform a breech birth, as well as manual extraction of the placenta and examination of the uterus. As for the professional autonomy of midwives, it should be noted that in 2016 midwives were given the right to continue therapies ordered by a doctor, prescribe certain drugs and refer patients for certain diagnostic tests [7].

Studies show that 70% of Polish midwives believe that they are well-prepared, both theoretically and practically, for providing holistic and independent care for women and their families, and they less often than midwives working in the United Kingdom declare that they are fit for independent practice of their profession [8].

Due to the growing medicalization of childbirth, normal vaginal birth is more and more often perceived as a high-risk medical event, requiring supervision and intervention [9]. This 'medico-technical approach' is mentioned as one of the factors limiting midwives' autonomy. Despite the fact that pregnancy and childbirth have become safer and perinatal mortality has decreased, the risk discourse associated with delivery has intensified [10]. The awareness of the risk of liability for adverse events during labor affects the processes of guiding childbirth, and the intensification of the risk discourse further reduces trust in the natural course of labor. This perspective has led to an increase in the participation of physicians and undermines the involvement of midwives in the normal birth.

The number of spontaneous vaginal births can be increased and the medicalization of childbirth can be reduced by promoting the independence of midwives and their participation in the care for women in labor [11]. The basis of the midwife's practice should be to ensure the safety of the mother and child, to respect the natural rights governing childbirth and to take into account the autonomy of women in providing professional and culturally sensitive care. The BC SSSH offers innovative and safe care focused on women. Obstetric practice based on continued care and delivery that is concentrated on women's needs creates conditions for both maintaining professional independence and providing the highest quality of service. Midwives' pursuit of autonomy is not an end in itself, because it serves to provide women with care at the highest possible level. As Dilova and Aleksandrova-Yankulovska write: "Centers of autonomous care by midwives have an impact on the promotion of normal deliveries for a healthy life start, on babies' development and eventually on family health and well-being" [2].

Pregnant women in Poland have the right to choose a place of childbirth where they feel safe and where health services are provided, both in hospital and non-hospital settings. Birth centers can exist within or outside hospitals. A midwife delivering a baby outside a traditional delivery room has a legal obligation to ensure the availability of personnel trained in resuscitation and intubation of newborns, to refer the woman and/or the newborn to the appropriate hospital ward with the appropriate reference level and to provide access to complete medical documentation from the delivery [12].

AIM

The aim of the study was to collect data and assess the experience of the first five years of operation of the BC SSSA. Another aim of the study was to answer the research question of whether or not the birth center is a place conducive to safe and non-medicated childbirth in Poland.

MATERIAL AND METHODS

The group studied in this quantitative, descriptive and retrospective study consisted of 4,428 women who were initially selected for delivery at the BC SSSH between 1 October 2012 and 31 December 2017. The study involved the analysis of detailed data collected in the medical documentation of 3,743 women in labor. These data referred to the assessment of obstetric outcomes (the mode of delivery, types and reasons for transfer, episiotomy and perineal tear) and neonatal outcomes (Apgar score).

The BC SSSH was founded in October 2012. Births delivered in the birth center account for 9.6% of all births that take place at the St. Sophia Specialist Hospital. The BC SSSH consists of three rooms for delivery with bathtubs and five rooms for postpartum stays, furnished in such a way to provide intimacy and resemble home conditions. Women stay in the midwife-led unit for about two days, in the absence of complications. The staff includes 25 midwives with at least five years of experience in the delivery room and a midwife coordinator. The same staff also works in the hospital Obstetric Unit. If a woman needs to be transferred from the center, she is taken to the Delivery Room or the Operating Room. Midwives may continue to accompany the woman in the Delivery Room or take the woman in labor to the operating room. The maximum number of births per day was six.

Initialeligibilityfor childbirth at the BC SSSH is evaluatedby midwives at 34–37 weeks of gestation or on the day of delivery. Exclusion criteria are maternal diseases (including diabe-

tes, hypertension, heart disease and kidney disease), an eventful obstetric history, multiple pregnancies and age (over 43 years). The studied group consisted of women without an eventful obstetric history, in a normal pregnancy and aged 20–43 years. The highest parity was seven births.

The final selection (assessment) is made at the start of labor in the Admission Room. Women with normal blood pressure, spontaneous labor above 37 weeks of gestation in single pregnancy, with preserved fetal membranesor outflow of clear amniotic fluid, normal fetal position and correct (reactive) cardiotocography (CTG) recording are admitted.During delivery, oxytocin is not used to augment labor, and pharmacological anesthesia is not administered either.

The study was approved by the Ethics Committee of the Medical University of Warsaw (AKBE/232/2017).

RESULTS

Over a period of five years and three months, 4,428 women were deemed eligible for delivery at the BC SSSH, and the level of antepartum exclusions was maintained at 15% (Tab.1.).

The number of births that started at the BC SSSH almost doubled in five years. The number of births that started and ended at the birth center is shown in Table 2. Primiparas accounted for 23.57–38.10% of women who gave birth at the BC SSSH in consecutive years, giving an average of 30.94% for all years. In relation to the number of women who were initially deemed eligible for birth at the BC SSSH, the transfer rate was 12.7%. The highest percentage of transfers was noted in the first year of the birth center's activity, and it decreased in the subsequent years. In the last assessed year of the birth center's activity, the number of women transferred during childbirth and after childbirth dropped by 8% compared to the early operation of the BC SSSH (Tab.2.). Natural births (births without induction of labor, epidural or spinal analgesia, general anesthesia, forceps or ventouse delivery, cesarean section or episiotomy) constituted almost 80% of all births (Tab.2.).

The main reasons for intrapartum transfers were failure to progress and fetal heart rate abnormalities (Tab.3.).

Most post-transfer births were vaginal (Tab.4.). The number of transfers ending with natural vaginal births, instrumental vaginal births and cesarean sections compared to the started deliveries were 9.06%, 0.91% and 2.30%, respectively.

The number of babies born with an Apgar score equal to or below eight was half a percent (Tab.5.).

DISCUSSION

The BC SSSH is the first hospital unit in Poland led by midwives. It can be treated as an innovative nationwide venture. It is based on British and Scandinavian experience and offers an alternative place for giving birth to several hundred women a year.

Poland is one of the European countries that was not able to offer the possibility of giving birth in midwife-led units for many years. Despite the fact that the BC SSSH is located in the capital of the country, some women have to come 450 km to give birth. This also means that only one out of 16 provinces has a branch run by midwives [branches of the National Health Fund (*NarodowyFunduszZdrowia* – NFZ) in Poland are equivalent to NHS trusts in the United Kingdom]. This is incomparable

Tab. 1. Number of women initially deemed eligible for delivery at the BC SSSH and the number of women
leaving birth center care before labor (antepartum transfers)

Year	2012-2013*	2014	2015	2016	2017	Total
Women initially deemed eligible for childbirth at the BC SSSH	N=613 n (%)	N= 872 n (%)	N=981 n (%)	N=966 n (%)	N=996 n (%)	N=4428 n (%)
Antepartum exclusions	124 (20,23)	170 (19,50)	121 (12,33)	162 (16,77)	108 (10,84)	685 (15,47)

with the British situation: a study on mapping midwifery and obstetric units in England shows that only 32 out of 134 trusts had obstetric units and no birth centers [13].

In Poland, about 380,000 babies are born each year, and births at the BC SSSH account for only 0.2%. The popularity of birth centers in Europe is variable [14]. In the United Kingdom, 14% of births take place in out-of-hospital or in-hospital birth centers [13]. In 2016 in England, where the number of deliveries per year is 774,000, there were 158 birth centers, and in the Netherlands, where 170,000 babies are born annually, there were 23 birth centers

Year	2012-2013*	2014	2015	2016	2017	Total
Number of births that started at the BC SSSH	N=489 n (%)	N= 702 n (%)	N=860 n (%)	N=804 n (%)	N=888 n (%)	N=3743 n (%)
Number of transfers	97 (19,84)	116 (16,52)	129 (15,00)	112 (13,93)	105 (11,82)	559 (14,93)
Number of wo- men transferred n phase I and II of labor/Num- ber of births started at the BC SSSH	72 (14,73)	101 (14,39)	105 (12,21)	93 (11,57)	88 (9,91)	459 (12,26)
Number of wo- men transferred n phase III and V of labor/ Number of bir- ths started at the BC SSSH	25 (5,11)	15 (2,14)	24 (2,79)	19 (2,36)	17 (1,91)	100 (2,67)
Number of births ended at the BC SSSH	417 (85,28)	601 (85,61)	756 (87,91)	711 (88,43)	789 (88,85)	3274 (87,47)
Number of natural births	388 (79,35)	538 (76,64)	678 (78,83)	640 (79,60)	730 (82,21)	2974 (79,45)

* The period between October 2012 and December 2013

Tab. 3. Reasons for intrapartumtransfers at the BC SSSH (N=459)	Reasons for transfers	Total N= 459 n (%)
	Failure to progress Fetal distress Meconium staining Premature rupture of membranes + oxytocin stimulation Epidural request Other	133 (28.98%) 85 (18.52%) 81 (17.65%) 75 (16.34%) 58 (12.64%) 23 (5.01%)

Tab. 4. Mode of delivery after the intra-partum and post-partum transfer from the BC SSSH (N=459)	Mode of delivery	N=559 n (%)
	Caesarean section Instrumentalvaginal birth Normal vaginal birth	86 (18.74%) 34 (7.40%) 339 (73.86%)

Tab. 5. Obstetric and neonatal outcomes of births that started at the BC SSSH $(N=3.743)$	Obstetric and neonatal outcomes	N=3743 n (%)
	Episiotomies Third- and fourth-degree perineal tears Newborns having Apgar scores of 8 and \downarrow	300 (8.02%) 7 (0.19%) 16 (0.43%)

[15]. In Sweden, the interest in childbirth at birth centers has decreased from 23-27% to 5% [16,17] in recent years.

The vast majority of women using the services of the BC SSSH were multiparas (70%), which differentiates these results from the English data obtained from a national prospective cohort study, where multiparas accounted for 50% of those giving birth at the Alongside Midwifery Unit [18]. This also differentiates the results from the findings of Morano et al. where, in turn, there were only 35% of multiparas [19]. This may result from the experience of multiparous women who, due to their experience of epidural anesthesia in previous deliveries, were afraidthat this would not be possible during a delivery at the birth center.

Normal vaginal births took place in 80% of women in labor, which is similar to the Birth-Placestudy result: 77.7% [20].

The eligibility for delivery at the BC SSSH is based on the "Model of care for a woman and child in the physiological perinatal period in non-hospital practice," developed in preceding years [21]. The number of antepartum exclusions for both medical and non-medical reasons, i.e. the percentage of women leaving birth center care before labor, was 15.5% in our study, and this result is lower than that observed by Mahmood. In his study, it was 26.3% [22]. During the BC SSSH's operation, the number of exclusions has decreased, which may be related to greater awareness of women regarding admission conditions at the birth center, the fact that women have become more determined and motivated to have a natural birth, as well as the greater confidence of midwives, who are less afraid to select women with potential risk factors for childbirth.

The percentage of women transferred in labor from the BC SSSH was 14.93%, which is similar to the result obtained by Morano et al. of 14.1% [19]. Other studies showed higher transfer values, ranging from 21% to 30% [18,23–26]. The decreasing number of transfers at the BC SSSH may result from the increasing confidence of midwives in their own abilities and the power of women, as well as the increase in midwife's skills. The main reasons for transfers at the BC SSSH were failure to progress, fetal distress and meconium staining, which is consistent with the results described by other authors [23–25].

In our study, 12.6% of women expressed the need for epidural anesthesia and similar results were obtained by other authors. The findings

of Morano et al. were significantly lower, as only 4.5% of women required transfer due to their wish for epidural anesthesia [19]. In the consecutive years, the number of women transferred from the BC SSSH due to their need for epidural anesthesia diminished. This may be related to the greater fluency of midwives in the use of non-pharmacological methods of pain relief.

In our study, there were 8% of episiotomies, which is lower than the value reported by other authors: from 12.6% to 64.9% [19,20,25,27–29]. This result is also significantly lower than the national average shown in "A report on the monitoring of maternity wards," which amounted to 55% [30].

Third- and fourth-degree perineal tears constituted a low complication rate (0.2%), which resembles the result obtained by Pre-lec[27] and is lower than that described in the Birthplace in England study, where the complication rate was 3.2% [18,20].

Newborns were born in a good condition, and the number of babies with a low Apgar score was lower than half a percent.

In our study, most post-transfer births were vaginal births, no instrumental deliveries were needed. The number of cesarean sections compared to the started deliveries was 2.2%, which is lower than the results presented by Brockle-hurst et al., where cesarean sections constituted 4.4%, Bernitz et al. (5.8%) and Morano et al. (6.1%). The percentage of instrumental births (0.9%) is similar to the results of Morano et al. (1.0%), but lower than those of Brocklehurst et al. (9.13%) and Bernitz et al. (10.4%) [19,20,26].

This is a descriptive study, therefore we cannot claim that childbirth in birth centers brings better obstetric results. Women who are eligible for birth in a birth center are a particularly healthy group of women, unburdened by risk factors, such as age or complicated obstetric history.

As an increasing number of women are interested in giving birth at the BC SSSH, and midwives want to work in this kind of setting, it is possible to create alternative thinking about childbirth and give women in Poland the opportunity to choose a place for childbirth. More birth centers are planned to open in the near future.

CONCLUSIONS

The BC SSSH opens up new possibilities for choosing a place to give birth for women living in Poland. High medicalization of perinatal care in Poland and the cesarean section rate at a level of 40% require activities for the promotion of natural childbirth, which is growing in popularity. The decreasing number of transfers and exclusions indicate that the awareness of women who choose such a birth setting has grown and the skills of midwives have increased. The safety of childbirth at the birth center argues in favor of the further nationwide popularization of this type of solution.

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