**Health professional doulas interventions and birth style: A pilot study**

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| **Abstract** The aim of the study was to examine the selection rate of interventions performed by health professional doulas and the types of births accompanied by doulas. The universe of the study consisted of birth records where vaginal birth was planned by the physician and the pregnant woman and where births were accompanied by a doula (N=49). 47 records kept by professional doulas were retrospectively analysed. The variables of the study were the techniques applied by the doula and the mode of delivery. Of the births accompanied by a doula, 44 (93.6%) were vaginal, 2 (4.3) were cesarean, and 1 (2.1%) was vaginal after cesarean Doulas used medical techniques more than communication techniques or complementary techniques. The most common practices used by mothers to facilitate labor were breathing exercises and massage. The least preferred practices were music and shower. It was determined that approximately half of the pregnant women were nulliparous and that the doula practices performed according to the type of birth were similar. The number of cesarean sections and vaginal births after cesarean sections, which are too low to be statistically calculated, are clinically significant outcomes. This research is also important because it presents the content and effects of free services provided in a public hospital. |
| Keywords: Doulas, Parturution, Vaginal Birth after Cesarean |

1. **Introduction**

From antiquity to the present day, there have been individuals who have provided assistance to women during childbirth. In the present era, births occur in a hospital setting, with support provided by a multidisciplinary team of health professionals, family members offering spiritual support to the expectant mother, and trained doulas. To supplement the assistance provided by hospital personnel and family members, an increasing number of women in labor are opting to utilize the services of doulas [1]. Doulas receive training in order to provide emotional and physical support to women and their partners throughout the stages of pregnancy, labour and the postpartum period. While some doulas possess a background in nursing or midwifery, the majority of them are women with no previous healthcare training [2]. Doulas provide spiritual support to the expectant mother before, during and after birth, employing a range of techniques to facilitate the birthing process and enhance the quality of life for the expectant mother. These techniques encompass breathing exercises, massage, positional changes, aromatherapy, point pressure techniques, meditation, imagery, and the use of water. A substantial body of evidence attests to the advantages of intrapartum doula care, including a reduced likelihood of caesarean section and a shorter duration of labour. In one study, it was emphasised that bathing, massage, touching, changing position, moving and walking were found to reduce labour pain and increase satisfaction with labour [3]. In the Cochrane review, it was emphasised that walking and standing in the first stage of labour in pregnant women shortened the duration of labour by approximately one hour, reduced the need for caesarean section and epidural, and it was reported that walking and standing had no adverse effects on maternal and neonatal health [4]. A review highlighted the necessity for a more comprehensive integration of doula care into the existing maternity care system, accompanied by an increase in the reimbursement rates for doula services [5]. The aim of the study was to examine the selection rate of interventions performed by health professional doulas and the types of births accompanied by doulas.

1. **Materials and Methods**

The study was conducted in a retrospective descriptive manner. In order to enhance the quality of care provided during vaginal births, midwives with undergraduate degrees were provided with in-service training by the Konya Public Health Presidency. These midwives were then assigned to provide supportive interventions and continuous care alongside the midwife responsible for medical intervention. The birth records examined included births that occurred at Dr. Ali Kemal Berivanlı Gynecology and Obstetrics Hospital between January 01 and January 31, 2019. The universe of the study consisted of birth records where vaginal birth was planned by the physician and the pregnant woman and where births were accompanied by a doula (N=49). Among these women, all of those who met the following criteria constituted the sample of the study. The inclusion criteria were labour delivery (36-42 weeks of gestation), fetus with head presentation. The exclusion criteria were high-risk pregnancy, multiple pregnancies, and a caesarean section decided by the physician in charge at the time of application. Two birth records were excluded from the study because the gestational age was less than 36 weeks. 46 birth records with doulas were examined.

Data Collection Methods

Records kept by professional doulas were retrospectively analysed. The variables of the study were the techniques applied by the doula and the mode of delivery.

Data Analysis

All data are presented in numerical and percentage form. In the planning of the study, the birth records of nulliparous pregnant women were grouped as vaginal and caesarean. The practices of doulas were to be compared with the chi-square test; however, this was not done due to the lack of sufficient data, with only one birth being recorded via caesarean.

Ethical Considerations

Ethical approval for the research was obtained from Çankırı Karatekin University Ethics Committee (unique decision code: fedf8ef36abb4e53).

**Results**

In this birth records the number of pregnant women with 0 births was 23 (48.9%). Of the births accompanied by a doula, 44 (93.6%) were vaginal, 2 (4.3) were cesarean, and 1 (2.1%) was vaginal after cesarean. The neonatal mortality rate was determined as 1 (2.1%). The average time the doula accompanies the pregnant woman is 273.15±158.27 minutes. When the practices of the doulas were analysed, a total of 37 women (78.7%) received massage treatments on the lower abdomen, sacral region, upper thighs, shoulders and legs. 42 doulas (89.4%) performed controlled breathing exercises with pregnant women. 28 (59.6%) doulas performed practices that enabled the pregnant women to be active such as squatting, kneeling, standing and pelvic tilt on a Swiss ball. A total of 10 (21.3%) pregnant women underwent acupressure, which is defined as the constant stimulation of acupuncture points using the fingertips, thumb, joints, or a suitable acupuncture instrument. A total of 13 (27.7%) pregnant women were provided with the opportunity to relax by listening to the music or sounds of their choice during the course of their labour. Eighteen percent 18(38.3%) of doulas conducted progressive relaxation training during the latent phase of labour. A total of 13(27.7%) of pregnant women were provided with a hot shower. As there was no data available on the previous mode of delivery for multiparous pregnant women, it was not possible to analyse the effect of the doula's practices on the mode of delivery. For this reason, the birth records of nulliparous pregnant women were grouped as vaginal (n=22) and cesarean (n=1). Doula practices were examined and it was determined that massage, breathing, active positions, muscle relaxation and music were applied to this pregnant woman who gave birth via cesarean section. Despite this, the birth was via cesarean section due to narrow pelvis.

1. **Discussion**

In this study, birth records were examined with a midwife responsible for medical care and a midwife working as a professional doula. It was found that the majority of the births were vaginal and only 4.3% were cesarean. The most common practices used by mothers to facilitate labor were breathing exercises and massage. The least preferred practices were music and shower. It was determined that approximately half of the pregnant women were nulliparous and that the doula practices performed according to the type of birth were similar.

In the birth records with professional doulas, it was found that the majority of births were vaginal and only 4.3% were via cesarean section. This is an expected situation since the records examined were the records of non-high-risk pregnancies where the physician deemed vaginal birth appropriate and the pregnant woman preferred vaginal birth. The literature also suggests that the presence and support of a trained doula reduces the likelihood of cesarean birth [2,6,7]. Since there is no control group data in this study, it is not possible to make a definitive judgment on this issue. Despite this, it is undeniable that the cesarean rate in this study is quite low. The most common practices used by doulas to facilitate labor are breathing and massage. It is reported that slow and deep breathing is used during contractions in the first stage of labor and breathing associated with pushing efforts in the second stage [8]. The least preferred practices are music and shower practices. It is reported that doulas use more communicative methods such as verbal communication, eye contact, and asking client's questions [9]. In this study, more medical techniques such as breathing were used, the reason for which is that they did not report communicative approaches as a technique. Since this study was conducted by examining retrospective data records, it is not possible to know their thoughts on reporting. In this study, when nulliparous pregnant women were grouped according to the type of birth, it was determined that the practices were similar. This contradicts the research conducted. The possible effect of doula support on reducing the cesarean rate has been shown [5] and there are various studies on the effectiveness of the practices [10,11]. Professional doulas preferred the application that the pregnant woman needed during labor. This finding is expected since they are the ones who know best which techniques to use at what time. The lack of a control group in the study made it difficult to determine the effectiveness of the applications. The number of cesarean sections and vaginal births after cesarean sections, which are too low to be statistically calculated, are clinically significant outcomes. Support from doulas not only contributes to positive maternal and neonatal outcomes, but has also been shown to help reduce health disparities among women of different socioeconomic status [9]. This research is also important because it presents the content and effects of free services provided in a public hospital.

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