

## Early Hospital Discharge Program after Vaginal Delivery: A Satisfaction and Efficiency Review

Rodrigo Orozco Fernandez\*, Monica Gutierrez Martinez, Isabel Bouthelier Gutierrez, Ana Delgado Martinez, Javier Plaza Arranz and Manuel Albi González

Department of Obstetrics and Gynecology, Hospital Universitario Fundacion Jimenez Diaz (Grupo Quironsalud), Madrid, Spain

\*Corresponding Author: Rodrigo Orozco Fernandez, Department of Obstetrics and Gynecology, Hospital Universitario Fundacion Jimenez Diaz (Grupo Quironsalud), Madrid, Spain.

Received: September 09, 2018; Published: October 30, 2018

### Abstract

**Introduction:** Hospital discharge associated to eutocic and instrumental delivery without complications is usually carried out not earlier than 48 hours since birth, as long as postpartum period has been developed under normality assumptions. Early hospital discharge is known as mother and newborn hospital discharge before 48 hours postpartum, which benefits are related to a better satisfaction of the patient, higher humanization of the process and savings in healthcare costs.

**Materials and Methods:** A descriptive study is carried out with the results of the EDP protocol implementation at HUFJD from January to June 2018.

**Results:** From a total of 1050 deliveries, 494 (47.05%) were considered to EDP, accepting 58 (11.74%).

The 77.58% of the patients who accepted participated in a satisfaction survey. 84.44% of patients claimed to have family support at home. We obtained an average satisfaction score, measured with a Likert scale, of 4.75/5 points. 95.5% would request again the early hospital discharge in a hypothetical new delivery.

**Conclusion:** EDP entails numerous benefits for mother and newborn, as well as to healthcare organizations in terms of efficiency.

**Keywords:** Delivery; Early Discharge; Obstetrician; Efficiency; Home Care

### Abbreviations

EDP: Early Discharge Protocol; RCTs: Randomized Controlled Trials

### Introduction

The hospital discharge after a vaginal delivery is given in most of the Spanish hospitals after 48 hours of the delivery. Apart from the realization of an adequate maternal puerperal revision, and a correct instauration of the breastfeeding, the main aim of this is the legal need for the realization of the universal screening of metabolopathies to the newborns at 48 hours of age.

We assume as early hospital discharge the hospital discharge of the mother and her newborn before 48 hours after the delivery, with a puerperal revision and the realization of the metabolopathies screening on an outpatient basis.

There is enough evidence that affirms that early hospital discharge is safe, not harmful, and it has been demanded by patients, as a measure of greater humanization of the birth process, demonstrating benefits for both, mother and her newborn, and by the healthcare administrations to improve the efficiency of the use of resources.

### Objective of the Study

The three main objectives of this study are:

1. To carry out a descriptive study of the results obtained after the establishment of an early hospital discharge protocol at the Fundación Jiménez Díaz Hospital in Madrid,
2. To measure the degree of satisfaction of the patients with regards to this protocol, and
3. To analyze the benefits obtained by the Health Systems in terms of efficiency.

## Materials and Methods

We have carried out a retrospective descriptive study with the data collected from January to June 2018 in Hospital Universitario Fundacion Jimenez Diaz of Madrid.

The possibility of early discharge was offered to all patients who fulfilled inclusion criteria, in all cases with the approval of both parents and the corresponding Informed Consent signature.

The inclusion criteria were three: an eutocic or instrumental delivery, a favorable puerperal evolution and a neonate of more than 24 hours of life. As exclusion criteria, we found: cesarean delivery, an adequate weight to gestational age of less than 2,500g or more than 4000g, a pH lower than 7.10 or an APGAR less than 7, and/or lactation not established. As a condition, ambulatory review in the hospital was indicated within 24 hours of both mother and the newborn.

The following parameters were included in the databases: total of early discharge without complications by the total of deliveries, maternal age, obstetric formula, labour induction or spontaneous delivery, type of delivery, postpartum perineal state, average hospital stay, adherence to breastfeeding at hospital discharge. Also patients' or neonates' emergency care and re-admission in the first 96h after early discharge, re-admission period and patients' and neonates' total definitive discharge after revision, were included.

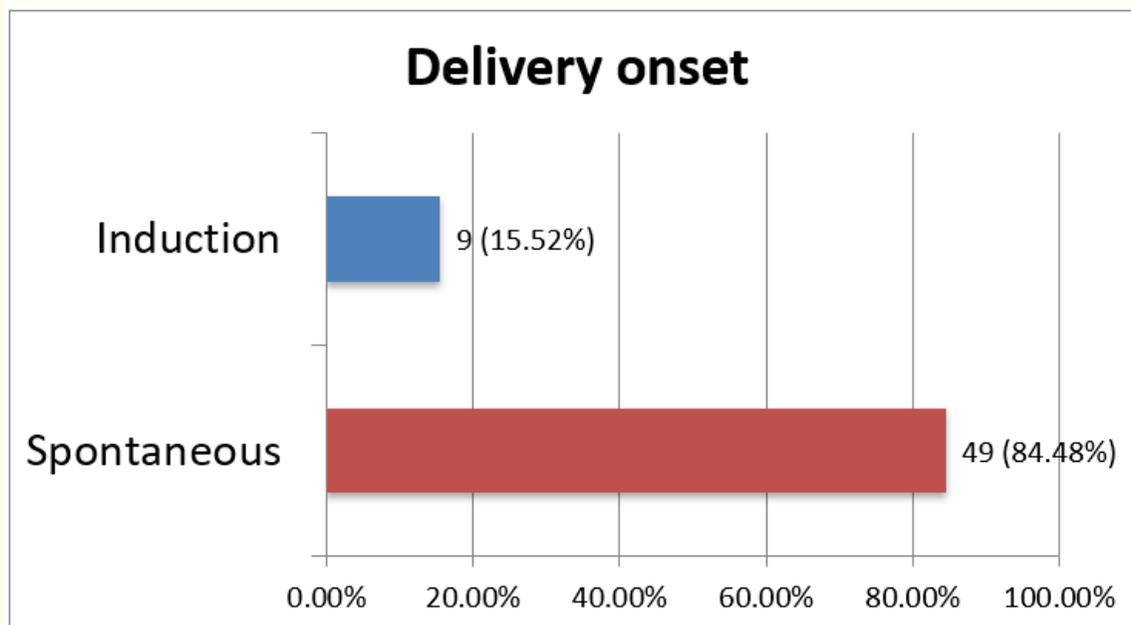
In addition, a telephone survey was conducted to analyze the patients' satisfaction degree with regard to the Early Discharge Protocol; and the benefits calculation in terms of efficiency made from the eutocic delivery's average cost without complications and the average puerperal stay in our Center.

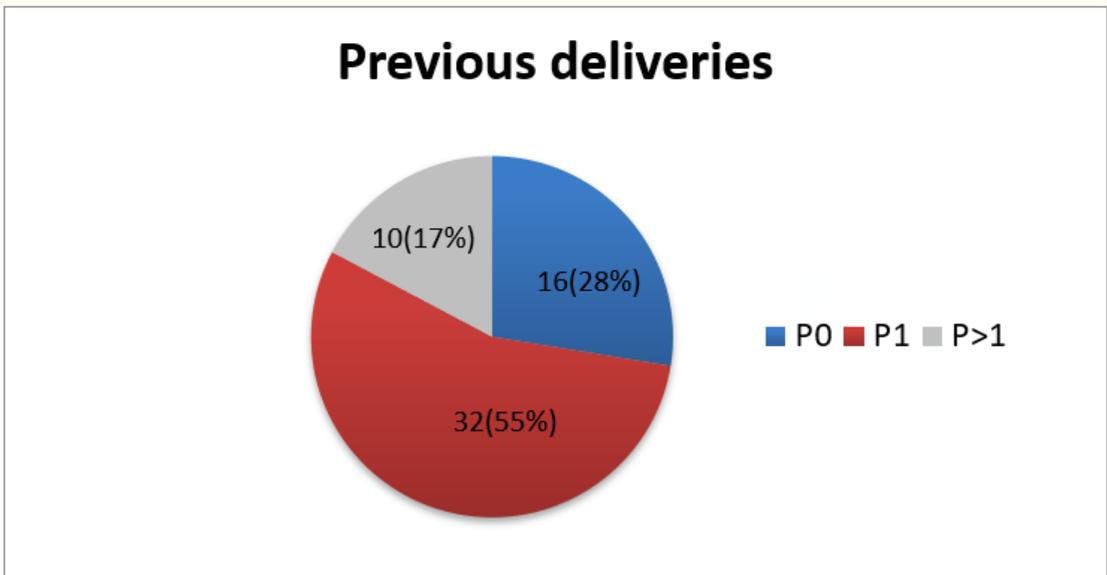
## Results and Discussion

### Results

From a total of 1050 deliveries, 494 (47.05%) were susceptible to EDP, accepting 58 (11.74%).

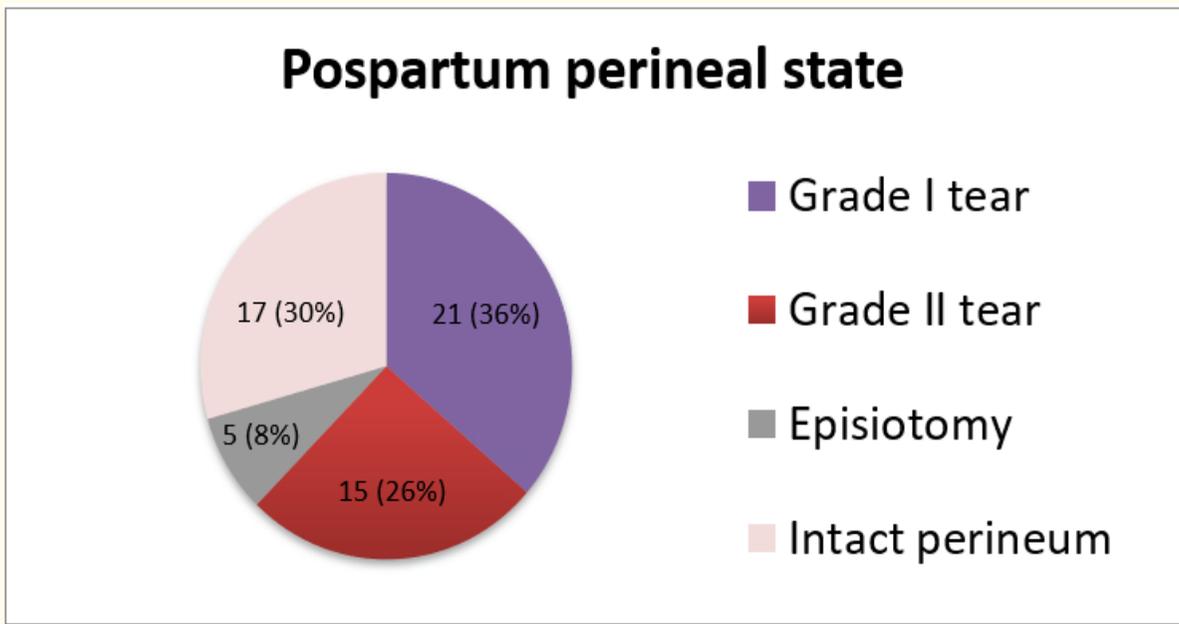
The mean maternal age was 33.65 years. 49 (84.48%) deliveries were spontaneous onset, being the remaining deliveries 9 (15.52%) inductions. The protocol was more popular among patients with a previous vaginal delivery. Of the 58 patients who agreed to be included in the EDP, 16 (28%) were their first pregnancies, 32 (55%) were their second pregnancies, and 10 (17%) had had two or more previous pregnancies. 57 births were eutocic, and only one was an instrumental delivery (Figure 1 and 2).





Figures 1 and 2: Poblacion Epidemiology.

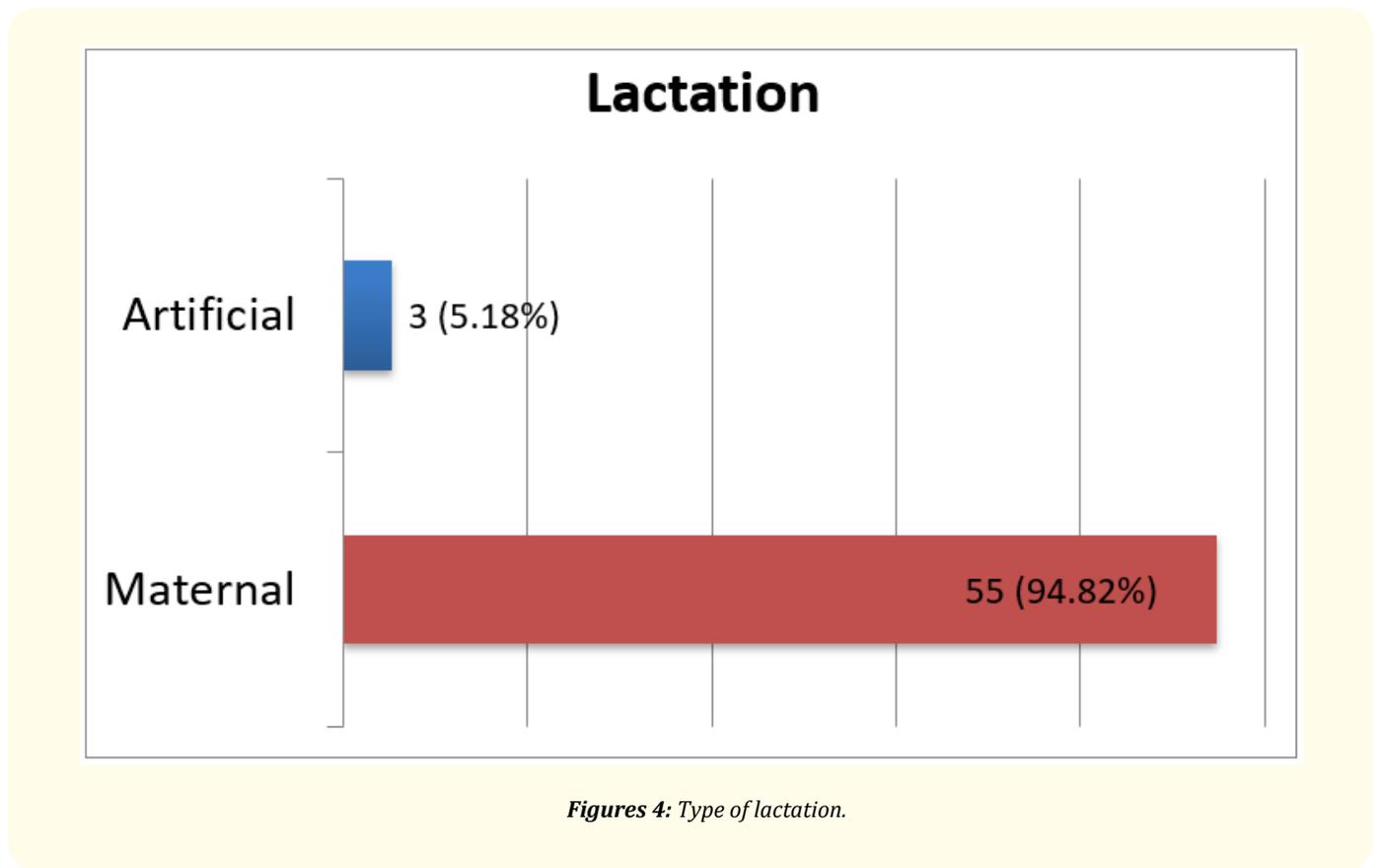
21 (36%) of patients had a grade 1 perineal tear, being the protocol less favored among the patients who underwent episiotomy (Figure 3).



Figures 3: Postpartum perineal state.

Up to 95% of patients achieved a correct neonatal adherence to breastfeeding (Figure 4).

In terms of efficiency, the overall average stay from the time of admission was 2.96 days, compared to 1.42 days when the EDP is applied, reducing it by 52%, that is, a total of 91.64 days of hospital stay avoided considering the 58 patients who were included in the protocol.



Assuming that the cost of a full day (24 hours) of admission in a physiological puerperium is 400 euros in our environment and that 58 patients have been included in the EDP, the estimated savings derived from the implementation of the program during the indicated months has been 23,200 euros.

The real savings could even be higher because the difference in hospital admission time is 1.54 days, which increases the availability of hospital beds for patients who require admission.

Regarding the complications described 48 hours after discharge, only one urgent maternal consultation was recorded, due to a lower extremity thrombophlebitis, and no re-admissions. Referring to neonates, two urgent consultations were registered, one due to congenital torticollis and the other one due to jaundice, and only two neonates were readmitted, both because of hyperbilirubinemia (Table 1).

	Maternal	Neonatal
Urgent visits	1 (1,72%)	2 (3,44%)
Readmissions	0 (0%)	2 (3,44%)

**Table 1:** Complications or urgent consultations.

We conducted a telephone satisfaction survey in which 45 of the 58 included patients participated. We obtained an average satisfaction score, measured with a Likert scale, of 4.75/5 points.

84.44% of patients claimed to have family support at home, and 95.5% would request again the early hospital discharge in a hypothetical new delivery (Table 2).

However, it was found that 37 (63%) of the patients reported as a problem the fact of having to return to the hospital within 24 hours to perform neonatal metabolic screening. Therefore, it was decided to include in the program a home visiting made by a midwife specialized in this field, thus solving this difficulty referred by the patients.

	Yes	No
Family support at home	38 (84,44%)	7 (15,56%)
Patients who would request again the early hospital discharge	43 (95,5%)	2 (4,5%)

**Table 2:** Support at home and global satisfaction.

**Discussion**

Early discharge of mother/neonate dyad has become a common practice, its results are measured by readmissions and satisfaction rates. More than 97% of patients have shown high ratings in the surveys conducted. Less than 1% of readmissions have been reported, no one associated with hyperbilirubinemia and dehydration [1-3]. Discharge from hospital to home generally proves to be a difficult transition for parents since it is a learning and adaptation process. However, EDP is an opportunity to bridge the gap between the hospital and home [4]. Early hospital discharge of women after unplanned cesarean birth, using the model of nurse specialist transitional home care, also have been shown as a safe, feasible, and cost-effective [5].

Mothers' sense of security is a must in a new discharge program. Contact between mother, newborn and partner; emotions towards breast feeding; and breast-feeding must be guaranteed. Women in the Early discharge group reported a greater sense of security in the first postnatal week. With the intention of maintaining and guaranteeing an adequate breastfeeding, it is necessary to visit at home the breastfeeding specifics [6]. Families experienced a barrier in attempting to contact health-care professionals following hospital discharge and they asked for new ways to communicate that would eliminate that barrier and meet their needs for more individualized and timely information and guidance [7]. Nurses specialized in obstetrics, breastfeeding, puerperal and neonatal care, are necessary to ensure correct empathy and adequate communication with family members.

However, other studies suggest that although universal access to postpartum support is important, the results suggest that a routine home visit is not always necessary to identify the women who need it [8].

For low-risk mothers and newborns in an integrated managed care organization, home visits compared with hospital-based follow-up and group visits were costlier but achieved comparable clinical outcomes and were associated with higher maternal satisfaction [9].

This program has been design to be performed in term infants given that late preterm and early term infants bear an increased risk of morbidity and mortality [10].

The most recent Cochrane systematic review including 10 randomized controlled trials (RCTs) (involving 4489 women) compared early postnatal discharge with a standard length of stay. One of the main limitations of this review is the methodological and clinical heterogeneity within included studies. The pooled estimate of the included trials showed no statistically significant difference between early discharge and standard length of stay for infant readmission to hospital (relative risk (RR) 1.29 95% CI 0.60 - 2.79) or other important outcomes [11]. A systematic review has been developed to determine possible effects of a policy of early postnatal discharge on important maternal and infant health-related outcomes [12].

It's well known that a longer postpartum hospital stay is required for the mother with complications during pregnancy and delivery, so that the results of the logistic model show that an increased number of complications during pregnancy increases the hospital length stay [13,14].

Among 385 pregnant women attending ANC clinic 320 (83.1%) had were reported to have history of mutilation and 4 (1.0%) of them were seropositive. However, mutilation was not significantly associated ( $p = 0.852$ ) with prevalence of HCV infection among pregnant women attending ANC clinic in Adjibar health center. About 380 (98.7%), 320 (83.12%), 49 (12.7%), 48 (12.5%) and 39 (10.13%) pregnant women had the practice of ear piercing, history of mutilation, tattooing, sharing of sharp materials and tooth extraction respectively (Table 3). The respective prevalence of HCV infection among pregnant women who had a history of surgical procedure, tooth extraction, sharing of sharp materials and tattooing was 6.7% (1/15), 2.6% (1/39), 2.1% (1/48) and 2.0% (1/49) respectively. But there was no any HCV sero-positivity in others possible risk factors. Due to unavailability of HCV positivity (some variables do have zero cell values) in pregnant women who had a history of hospital admission, blood transfusion, abortion, multiple sexual partners it was very difficult rather impossible to conduct multivariate logistic regression analysis. In general HCV sero-positivity was no statistically significant with possible risk factors.

## Conclusion

As a conclusion, we can affirm that early hospital discharge entails numerous benefits in physical and mental wellbeing of the mother and the newborn, seeking a better, faster and more natural adaptation to the new social and familiar situation, and an earlier recovery and mother incorporation to the basic activities of daily life, as well as to healthcare organizations in terms of efficiency.

## Acknowledgements

We thank the Department of Obstetrics and Gynecology as well as the management team of the Fundacion Jimenez Diaz University Hospital for their collaboration in implementing and developing this program.

## Conflict of Interest

There is no conflict of interest.

## Bibliography

1. De Carolis MP, *et al.* "Individualized follow up programme and early discharge in term neonates". *Italian Journal of Pediatrics* 40 (2014): 70.
2. Hascoët JM and Petitprez K. "[Maternal discharge: conditions and organization for mothers and newborns returning home. The French National Authority for Health recommendations update]". *Archives de Pédiatrie* 21.9 (2014): 1053-1059.
3. Santos Burgoa-Larrañaga L, *et al.* "[Early discharge of the healthy newborn from the nursery of the Hospital Español de México]". *Revista Médica del Instituto Mexicano del Seguro Social* 54.6 (2016): 696-705.
4. Brødsgaard A, *et al.* "A preterm lifeline: Early discharge programme based on family-centered care". *Journal for Specialists in Pediatric Nursing* 20.4 (2015): 232-243.
5. Brooten D, *et al.* "A randomized trial of early hospital discharge and home follow-up of women having cesarean birth". *Obstetrics and Gynecology* 84.5 (1994): 832-838.
6. Askelsdottir B, *et al.* "Home care after early discharge: impact on healthy mothers and newborns". *Midwifery* 29.8 (2013): 927-934.
7. Danbjørg DB, *et al.* "Do families after early postnatal discharge need new ways to communicate with the hospital? A feasibility study". *Midwifery* 30.6 (2014): 725-732.
8. Steel O'Connor KO, *et al.* "A randomized trial of two public health nurse follow-up programs after early obstetrical discharge: an examination of breastfeeding rates, maternal confidence and utilization and costs of health services". *Canadian Journal of Public Health* 94.2 (2003): 98-103.
9. Escobar GJ, *et al.* "A randomized comparison of home visits and hospital-based group follow-up visits after early postpartum discharge". *Pediatrics* 108.3 (2001): 719-727.
10. Hwang SS, *et al.* "Discharge timing, outpatient follow-up, and home care of late-preterm and early-term infants". *Pediatrics* 132.1 (2013): 101-108.

11. Brown S., *et al.* "Early postnatal discharge from hospital for healthy mothers and term infants". *Cochrane Database of Systematic Reviews* 3 (2002): CD002958.
12. Jones E., *et al.* "The effect of early postnatal discharge from hospital for women and infants: a systematic review protocol". *Systematic Reviews* 85 (2016): 24.
13. Evans WN., *et al.* "The impact of early discharge laws on the health of newborns". *Journal of Health Economics* 27.4 (2008): 843-870.
14. Calhoun BC., *et al.* "Cost consequences of implementation of an early obstetrical discharge programme in a military teaching hospital". *Australian and New Zealand Journal of Obstetrics and Gynaecology* 39.1 (1999): 35-40.

**Volume 7 Issue 11 November 2018**

**© All rights reserved by Rodrigo Orozco Fernandez., *et al.***