

Newborn Consultations at the Pediatric Emergency Department of the Avignon Hospital Center (France)

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Abstract

Introduction: Consultations for newborns (0 to 28 days) are also on the rise in pediatric emergency departments. This increase in newborn consultations is partly explained by the closure of many maternity wards and the merging of smaller maternity units. The aim of this study is to identify the reasons and factors associated with newborn consultations in the pediatric emergency department. **Method:** This was a single-center study with a retrospective component (before the reduction of postpartum hospitalization duration) and a prospective component (during the reduction of postpartum hospitalization duration). Only children born at the maternity ward of Avignon Hospital and who attended neonatal consultations at the pediatric emergency department of Avignon were included. **Results:** From October 1, 2023 to March 31, 2024 (Group 1), out of a total of 21,611 visits, 372 newborns (1.72%) consulted the pediatric emergency department. Among them, 165, or 44%, were born at Avignon Hospital, representing a proportion of 0.76% of pediatric emergency consultations. Thus, young maternal age ($p = 0.04$) and primiparity ($p = 0.011$) appear to be factors associated with hospitalization. **Conclusion:** Early discharge from maternity is feasible with good perinatal organization, including early identification of at-risk situations and structured follow-up after leaving the maternity ward.

Keywords

Newborns, Pediatric Emergency, France

1. Introduction

Visits to the pediatric emergency department are increasing in France [1]. This

rise in visits leads to an overload of work, especially during epidemic peaks [2].

Consultations for newborns (0 to 28 days) are also on the rise in pediatric emergency departments. This increase in newborn consultations is partly explained by the closure of many maternity wards and the merging of smaller maternity units [3]. The presence of these newborns in pediatric emergency departments raises issues related to reception, orientation, waiting times, and quality of care [4].

The French National Authority for Health (HAS) defines an optimal maternity discharge as 3 days for a vaginal delivery [3]. In many countries, the average length of stay in maternity wards has significantly shortened over recent years. With an average of 4.5 days, France is above the OECD countries' average of 3.1 days [5] [6]. Early discharge is defined as leaving within 2 days for a vaginal delivery and 4 days for a cesarean section. The advantages and disadvantages of early maternity discharge have been the subject of several studies [7]-[9]. According to a study conducted in Marseille, early discharge from maternity is feasible with optimal perinatal organization, including early identification of at-risk situations and structured follow-up after discharge [10].

Since October 2025, the maternity ward at the Urbain V Polyclinic in Avignon has been closed. In response to this situation, the length of postpartum hospitalization at the Avignon Hospital Center has been reduced.

The aim of this study is to identify the reasons and factors associated with newborn consultations in the pediatric emergency department. To do this, we divided our study into two periods:

- Group 1 before the reduction in postpartum hospitalization duration (October 2023 to March 2024).
- Group 2 during the reduction in postpartum hospitalization duration (October 2024 to March 2025) (**Table 1**).

Table 1. Reporting the criteria for early discharge.

Characteristics	Vaginal delivery	Cesarean
Primiparous woman		
Breastfeeding	day 4	day 4
Artificial feeding	day 3	day 3
Multiple pairs		
Breastfeeding	day 2	day 3
Artificial feeding	day 2	day 3

2. Method

This was a single-center study with a retrospective component (before reducing postpartum hospitalization duration) and a prospective component (during the reduction of postpartum hospitalization duration). The study periods were identical for each group:

- Group 1: October 1, 2023, to March 31, 2024 (6 months).
- Group 2: October 1, 2024, to March 31, 2025 (6 months).

Only children born at the maternity ward of Avignon Hospital and who attended neonatal consultations at the pediatric emergency department of Avignon were included. Data were collected using the Terminal Des Urgences, Clinicom, and Aesily software.

We compared the epidemiological and clinical characteristics of the two groups of newborns.

Data were entered and analyzed using Excel 2016 and SPSS version 2.7. Statistical significance was considered when the p-value was less than 0.05.

3. Ethics Statement

This retrospective study was conducted in accordance with the ethical principles of the Declaration of Helsinki. Data were collected anonymously and confidentially to ensure the protection of newborns' personal information, in compliance with applicable French regulations. No additional interventions were performed as part of this study. The right of parents or legal guardians to object was respected when applicable.

4. Results

From October 1, 2023, to March 31, 2024 (Group 1), out of a total of 21,611 visits, 372 newborns (1.72%) consulted the pediatric emergency department. Among them, 165 (44%) were born at Avignon Hospital, representing 0.76% of pediatric emergency consultations.

For the period from October 1, 2024, to March 31, 2025 (Group 2), out of a total of 21,778 visits, 429 (1.96%) were newborns. Among these, 206, or 48%, were born at Avignon Hospital, accounting for 0.94% of pediatric emergency visits.

Characteristics of the mothers of the newborns:

In Group 1, the average age of the mothers was 30 years [17 - 44], with 34% primiparous and 53% married.

In Group 2, the average age of the mothers was also 30 years [17 - 44], with 47% being primiparous and 51% married (**Table 2**).

Table 2. Characteristics of the mothers of the newborns.

Characteristics	Group 1	Group 2
Age		
<22 years	16 (10%)	18 (8%)
22 - 27 years	35 (21%)	57 (28%)
28 - 35 years	79 (48%)	90 (44%)
>35 years	35 (21%)	41 (20%)
Parity		
1 infant	57 (34%)	96 (47%)
2 infants	46 (28%)	70 (34%)
3 infants	39 (24%)	25 (12.1%)

Continued

4 infants	12 (7%)	7 (3%)
5 infants	8 (5%)	6 (2.9%)
>5 infants	3 (2%)	2 (0.97%)
Marital status		
Married	88 (53%)	106 (51%)

Characteristics of Newborns

In Group 1, the average age of the newborns was 16 days [3 - 28], with 84% of the newborns being older than 7 days. The sex ratio was 1.6 in favor of boys. The average gestational age at birth was 39 [35 - 41] weeks of amenorrhea. Premature newborns numbered 2 (1%). Delivery was by the vaginal route in 84% of cases. The average birth weight was 3450 g [2200 - 4540]. The mode of feeding was exclusive breastfeeding in 46% of the newborns. The average length of stay in maternity was 3.72 days [2 - 15]. The main diagnoses at pediatric emergency visits were: rhinitis (35%), gastroesophageal reflux (23%), bronchiolitis (15%), poor weight gain (7%), bacterial neonatal infection (6%), and neonatal jaundice (5%). Following the emergency consultation, 45% of the newborns were hospitalized.

Regarding Group 2, the average age was 15 days [3 - 28]. Newborns older than 7 days accounted for 86% of the population. The sex ratio was 0.88. The average gestational age at birth was 39 [35 - 42] weeks of amenorrhea, with 7 (3%) being premature. Vaginal delivery was the mode of birth in 83% of cases. The average birth weight was 3350 g [2160 - 4260]. Exclusive breastfeeding was practiced in 45% of the newborns. The average length of stay in maternity was 3.59 days [2 - 9]. The main diagnoses were rhinitis (13%), bronchiolitis (12%), gastroesophageal reflux (11%), poor weight gain (8%), malaise (7%), neonatal jaundice (6%), and neonatal infection (4%). Among the newborns, 39% were hospitalized (**Table 3**).

Table 3. Characteristics of newborns.

Characteristics	Group 1	Group 2
Age		
1 - 7 days	27 (16%)	29 (14%)
8 - 14 days	48 (29%)	71 (35%)
15 - 21 days	39 (24%)	64 (31%)
22 - 28 days	51 (31%)	42 (20%)
Term		
<37 weeks of amenorrhea	2 (1%)	7 (3%)
≥37 weeks of amenorrhea	163 (99%)	199 (97%)
Birth weight		
<2500 g	3 (2%)	7 (3.4%)
2500 - 4000 g	146 (88%)	186 (90.3%)
>4000 g	16 (10%)	13 (6.3%)

Continued

Mode of delivery		
Vaginal delivery	138 (84%)	171 (83%)
Cesarean	27 (16%)	35 (17%)
Average length of maternity stay		
	3 days	3 days
Type of feeding		
Breastfeeding	76 (46%)	94 (45.6%)
Artificial feeding	67 (40.6%)	85 (41.2%)
Mixed	22 (13.3%)	27 (13.1%)

To identify factors associated with hospitalization of newborns in pediatric emergency departments, a univariate analysis was conducted. Thus, young maternal age ($p = 0.04$) and primiparity ($p = 0.011$) appear to be factors associated with hospitalization (**Table 4**).

Table 4. Univariate analysis of factors associated with hospitalization of newborns.

Characteristics	Group 1	Group 2	p-value
Age of mother	30 years [17 - 44]	30 years [17 - 47]	0.04
Average length of maternity stay	3.72 days [2 - 15]	3.59 days [2 - 9]	0.06
Parity	2 [1 - 6]	2 [1 - 7]	0.011
Breastfeeding	76	94	0.2

5. Discussion

The number of newborns visiting pediatric emergency departments slightly increased during the period of reduced maternity stay (0.94% compared to 0.78% of visits). The average age of the newborns in both groups was 16 and 15 days, respectively. This aligns with data from the literature, which reports a median age of 15 days [11]-[13]. Newborns under 7 days old had a lower visit rate to pediatric emergency departments (Group 1: 16% and Group 2: 14%). This could be explained by the presence of pediatric nurses during the first days after discharge from maternity, combined with family support. Some literature supports this hypothesis [13].

The diagnoses in both groups were almost identical, mainly including rhinitis, gastroesophageal reflux, bronchiolitis, and poor weight gain. Despite the shorter maternity stay, our study did not reveal a significant increase in consultations for weight gain issues. Rhinitis, gastroesophageal reflux, and colic are the main reasons for emergency visits reported in the literature [11] [13].

The hospitalization rate was 45% in Group 1 versus 39% in Group 2. Therefore, the hospitalization rate did not increase despite the reduced length of stay in maternity.

Factors associated with the risk of hospitalization included young maternal age and primiparity. These two factors are considered risk factors in most studies con-

ducted [13]-[15]. Young maternal age may be linked to greater anxiety, less experience, and lower maturity regarding motherhood. The lack of pediatricians and primary care physicians in the region forces parents to seek care at emergency departments, even in the absence of danger signs.

At the Avignon Hospital Center, to better support parents after discharge, a booklet containing essential information is provided. Other initiatives, such as establishing a pediatric nurse consultation or offering telephone assistance, could further improve the quality of care offered.

6. Conclusion

Early discharge from maternity is feasible with good perinatal organization, including early identification of at-risk situations and structured follow-up after leaving the maternity ward. Such organization could reduce the number of newborn visits to pediatric emergency departments.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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