ORIGINAL ARTICLE

NEWBORNS IN THE PEDIATRIC EMERGENCY DEPARTMENT: PATTERNS OF USE AND CARE PATHWAYS ACCORDING TO MATERNAL MIGRATORY STATUS

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ABSTRACT

Introduction: Newborns represent a substantial proportion of pediatric emergency department visits, often for benign conditions. Migrant families may face structural barriers to accessing primary health care, which may lead to different patterns of emergency department use. This study aims to characterize pediatric emergency department use by newborns of migrant mothers and to compare it with that of newborns of non-migrant mothers.

Methods: Single-center, cross-sectional observational study conducted in a pediatric emergency department in a level II hospital in Portugal. Newborns aged ≤28 days were included. Data on demographic and perinatal characteristics, integration into scheduled care, reasons for admission, referral pathways, diagnoses, and clinical outcomes were collected. Comparisons were performed according to maternal migratory status.

Results: Single-center, cross-sectional observational study conducted in a level II pediatric emergency department in Portugal. Newborns aged ≤28 days were included. Data on demographic and perinatal characteristics, access to scheduled care, reasons for admission, referral pathways, diagnoses, and outcomes were collected and compared according to maternal migratory status.

Conclusion: Newborns of migrant mothers more often attended the pediatric emergency department for benign conditions and showed lower integration into scheduled care. These findings suggest that barriers to access and continuity of care shape distinct patterns of neonatal emergency department use, underscoring the need for early postnatal follow-up, improved access to primary care, and accessible guidance pathways such as the telephone triage lines.

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Introduction

Newborns and migrant populations constitute particularly vulnerable groups due to their biological, social, and economic characteristics.[1-3]

Pediatric emergency department (ED) use during the neonatal period is frequently driven by benign and potentially avoidable conditions, reflecting limitations in care transition after discharge and in access to primary health care. Studies show that many newborns attend the ED for child-care–related concerns or mild neonatal conditions, without a formal indication for hospital-based emergency assessment; this pattern has been associated with factors such as primiparity, early hospital discharge, and inadequate postnatal follow-up.[2-3]

In a prospective study conducted in Turkey including more than 2,000 newborns evaluated in the emergency setting, most admissions were due to benign complaints and occurred without prior referral, often outside regular working hours and during the first days of life. Jaundice was the most frequent reason for admission, and approximately 13% of newborns required hospitalization. Primiparity, young maternal age, early hospital discharge, and lack of adequate postnatal follow-up were identified as factors associated with non-severe admissions and early ED revisits. The authors concluded that strengthening prenatal care, postnatal follow-up, and integration of newborns into primary health care services could reduce avoidable ED use and improve the identification of serious neonatal conditions.[4]

Consistently, a French study published in 2022 suggested that structured follow-up strategies during the neonatal period may reduce inappropriate use of pediatric emergency services.[5]

Available evidence further suggests that migrant children and children of migrant parents use emergency services more frequently than other children, often at the expense of other levels of health care, reflecting possible barriers to access, lower health literacy, or difficulties in integration into primary health care services.[6] A Portuguese study conducted in 2006 reported greater socioeconomic vulnerability, higher mortality rates, and increased neonatal ED use among children of immigrant parents, associated with delayed first primary care visits, lack of an assigned family physician, and a higher perceived severity of illness.[7]

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Despite the growing relevance of this issue, recent national studies specifically addressing pediatric emergency department use by newborns of migrant mothers remain scarce. Understanding patterns of ED utilization and experiences with primary health care services in this population is essential to identify inequalities, optimize care organization, and develop targeted intervention strategies.

In this context, the present study aims to update current knowledge regarding neonatal ED use, assessing potential differences between migrant and non-migrant families and exploring factors associated with these disparities.

Methods

Study Design: A single-center, cross-sectional, comparative observational study was conducted in the pediatric emergency department (ED) of a level II hospital in Portugal, between April 1, 2024 and June 1, 2025.

Study Population and Inclusion Criteria: All newborns (aged ≤28 days at the time of admission) evaluated in the pediatric ED during the study period were included. Maternal migratory status was defined as non-Portuguese nationality with residence in Portugal.

Exclusion Criteria: Newborns with incomplete or missing demographic or clinical data and cases in which parents or legal representatives declined participation were excluded.

Data Collection Procedures: At triage, parents or caregivers were invited to participate by the nursing staff. After acceptance and written informed consent, the attending physician completed a structured questionnaire during the clinical encounter. Survey data were subsequently entered into a database stored on a secure server accessible only to the research team.

Study Variables

- Maternal variables: age, educational level, parity, country of origin, and, for migrant mothers, length of residence in Portugal.
- Neonatal variables: age at evaluation, gestational age, mode of delivery, birth weight, and feeding type.
- Health care utilization variables: assignment of a family physician or primary pediatrician, prior medical or nursing consultation, and postnatal weight recording.
- Emergency episode variables: referral status, source of referral (if applicable), attempted prior evaluation in primary care, reason for admission, primary discharge diagnosis, need for hospitalization, and performance of diagnostic tests.

Statistical analysis:

- Descriptive and comparative statistical analyses were performed. Categorical variables were described using absolute and relative frequencies, while continuous variables were presented as means and standard deviations or medians and interquartile ranges, as appropriate. Normality was assessed using the Kolmogorov–Smirnov and Shapiro–Wilk tests.
- Comparisons between newborns of migrant and non-migrant mothers were conducted using the Wilcoxon rank-sum test for continuous variables and the Pearson chi-square test or Fisher's exact test for categorical variables, according to expected cell counts.
- Binary logistic regression was used to assess the association between newborn age (cumulatively stratified as 0–7, 0–14, 0–21, and 0–28 days) and prior medical consultation, nursing consultation, and weight recording. Results were expressed as odds ratios (ORs) with 95% confidence intervals (95% CI).
- Statistical analyses were performed using Statistical Package for the Social Sciences (SPSS Statistics®), version 31. Statistical significance was set at $p < 0.05$.

Ethical Considerations: The study procedures complied with the principles of the Declaration of Helsinki on Ethical Principles for Medical Research Involving Human Subjects. The study was approved by the institutional Ethics Committee. Written informed consent was obtained from all parents or legal representatives prior to inclusion.

Results

Demographic Characteristics

During the study period, a total of 43,877 admissions were recorded in the pediatric emergency department (ED). Of these, 553 (1.2%) involved newborns, of whom 394 were excluded due to parental refusal to participate or incomplete/incorrect completion of the study forms.

A total of 159 newborns were included, 104 (65%) of whom were children of migrant mothers. Regarding maternal origin, 34.6% of mothers were Portuguese, followed by those from Portuguese-speaking African countries (30.0%) and Brazil (18.9%); 12.0% originated from Asia and 4.5% from Europe. The median length of residence in Portugal among migrant mothers was 3 years (IQR: 5).

The median age of newborns at presentation was 14 days (IQR: 15), and was significantly higher among children of migrant mothers compared with non-migrants (15 days vs. 10 days; $p = 0.008$). When stratified by age group, a statistically significant difference in age distribution was observed between migrant and non-migrant groups ($p = 0.007$).

Median gestational age was similar in both groups (39 completed weeks; $p = 0.2$). No significant differences were found regarding mode of delivery ($p = 0.5$), birth weight (3268 g vs. 3258 g; $p = 0.2$), feeding pattern ($p = 0.4$), maternal age (28 vs. 30 years; $p = 0.3$), educational level ($p = 0.2$), or parity ($p = 0.2$). Maternal and neonatal demographic characteristics are summarized in Table 1.

Access to Health Care

Regarding access to health care (Table 2), newborns of migrant mothers were less likely to have an assigned family physician (29% vs. 76%; $p < 0.001$), had less frequent contact with a primary pediatrician (8% vs. 20%; $p = 0.023$), and had a lower proportion of scheduled medical consultations (64% vs. 91%; $p < 0.001$).

Table 1 - Maternal and neonatal characteristics of the study sample according to migratory status

Variable	Total n = 159[1]	Non migrant n = 55[1]	Migrant n = 104[1]	p value[2]
Newborn age (days)	14 (15)	10 (14)	15 (13)	0.008
Gestational age (weeks)	39 (1.6)	39 (1.5)	39 (1.6)	0.2
Mode of delivery, n (%)				0.5
Vaginal	86 (54%)	33 (60%)	53 (51%)	–
Instrumental (forceps/vacuum)	29 (18%)	9 (16%)	20 (19%)	–
Cesarean section	44 (28%)	13 (24%)	31 (30%)	–
Birth weight (grams)	3260 (568)	3258 (488)	3268 (551)	0.2
Feeding type, n (%)				0.4
Exclusive breastfeeding	125 (79%)	41 (75%)	84 (81%)	–
Formula feeding	3 (1%)	2 (4%)	1 (1%)	–
Mixed feeding	31 (19%)	12 (22%)	19 (18%)	–
Maternal education, n (%)				0.2
Primary education (≤6 years)	3 (1.9%)	0 (0.0%)	3 (2.9%)	–
Lower secondary education	3 (1.9%)	1 (1.8%)	2 (1.9%)	–
Upper secondary education	22 (14%)	9 (16%)	13 (13%)	–
High school	76 (48%)	21 (38%)	55 (53%)	–
Higher education	55 (35%)	24 (44%)	31 (30%)	–
Maternal age (years)	29 (9.0)	30 (9.0)	28 (8.0)	0.3
Previous parity, n (%)				0.2
0	2 (1.3%)	2 (3.6%)	0 (0.0%)	–
1	93 (58%)	34 (62%)	59 (57%)	–
2	44 (28%)	13 (24%)	31 (30%)	–
≥3	20 (13%)	6 (11%)	14 (13%)	–

[1] Values are presented as median (interquartile range) or number (percentage).
[2] Group comparisons were performed using the Wilcoxon rank sum test for continuous variables and the Pearson chi square test or Fisher's exact test for categorical variables.

Table 2 - Access to and use of health care services during the neonatal period prior to the emergency department episode and characteristics of the emergency episode, according to migratory status

Variable	Total n = 159[1]	Non migrant n = 55[1]	Migrant n = 104[1]	p value[2]
Assigned family physician, n (%)[1]	72 (45%)	42 (76%)	30 (29%)	<0.001
Primary pediatrician, n (%)[1]	19 (12%)	11 (20%)	8 (8%)	0.023
Medical consultation, n (%)[3]				0.080
0–7 days	10 (6%)	6 (11%)	4 (4%)	–
Up to 14 days	22 (14%)	12 (22%)	10 (10%)	–
Up to 21 days	30 (19%)	21 (38%)	19 (18%)	–
Up to 28 days	54 (34%)	30 (55%)	24 (23%)	–
OR (95% CI) per age group increase[4]	–	3.03 (1.62–5.65)	1.75 (1.17–2.62)	–
Nursing consultation, n (%)[3]				0.935
0–7 days	23 (14%)	13 (24%)	10 (10%)	–
Up to 14 days	52 (33%)	20 (36%)	32 (30%)	–
Up to 21 days	82 (51%)	32 (58%)	50 (48%)	–
Up to 28 days	115 (72%)	40 (73%)	75 (72%)	–
OR (95% CI) per age group increase[4]	–	1.99 (1.06–3.75)	1.73 (1.14–2.62)	–
Weight recording after birth, n (%)[3]				0.225

0–7 days	27 (17%)	13 (24%)	14 (13%)	–
Up to 14 days	54 (35%)	21 (38%)	33 (32%)	–
Up to 21 days	83 (54%)	35 (63%)	48 (46%)	–
Up to 28 days	118 (77%)	44 (80%)	74 (71%)	–
OR (95% CI) per age group increase[4]	–	9.18 (1.43–58.68)	1.41 (0.95–2.10)	–
Hospitalization, n (%)[1]	21 (13%)	10 (18%)	11 (11%)	0.200
Diagnostic tests performed, n (%)[1]	60 (38%)	32 (58%)	28 (27%)	<0.001
Attempted primary care evaluation, n (%)[1]	46 (29%)	20 (36%)	26 (25%)	0.130
Referred to ED, n (%)[1]	69 (43%)	33 (60%)	36 (35%)	0.002
Source of referral, n (%)[1]				0.120
Primary health care center	26 (38%)	15 (45%)	11 (30%)	–
Other hospital	2 (3%)	2 (6%)	0 (0%)	–
Primary pediatrician	3 (4%)	2 (6%)	1 (3%)	–
Telephone line	38 (55%)	14 (42%)	24 (67%)	–

[1]Results are presented as absolute numbers (n) and percentages (%).
[2]Group comparisons were performed using the Wilcoxon rank sum test for continuous variables and the Pearson chi square test or Fisher's exact test for categorical variables.
[3]Cumulative totals.
[4]Odds ratio (95% CI) obtained through binary logistic regression.

Logistic regression analysis showed that increasing neonatal age (by age group) was associated with a higher likelihood of having had a prior medical consultation in both groups, although this association was stronger among non-migrants (OR = 3.03; 95% CI: 1.62–5.65; p < 0.001) than among migrants (OR = 1.75; 95% CI: 1.17–2.62; p = 0.007). Similar results were observed for nursing consultations (non-migrants: OR = 1.99; 95% CI: 1.06–3.75; p = 0.03; migrants: OR = 1.73; 95% CI: 1.14–2.62; p = 0.01). Weight recording showed a particularly strong association with age among non-migrants (OR = 9.18; 95% CI: 1.43–58.68; p = 0.01), whereas the effect was more modest among migrants (OR = 1.41; 95% CI: 0.95–2.10; p = 0.085).

Emergency Department Episode

In the descriptive analysis of reasons for ED admission during the neonatal period (Table 3), the most frequently recorded reasons in the overall sample were respiratory symptoms (22.6%) and jaundice (18.9%). Other reasons included crying (13.2%), skin and soft tissue conditions (11.9%), vomiting (7.5%), eye conditions (6.9%), and stool changes (5.0%), with less frequent categories covering a range of clinical presentations (temperature abnormalities, umbilical stump issues, feeding difficulties, and poor weight gain).

When comparing newborns of migrant and non-migrant mothers, descriptive differences in admission patterns were observed, although the overall difference did not reach statistical significance (p = 0.109). Jaundice was more common among non-migrant newborns (29.0% vs. 13.5%), whereas respiratory symptoms were more frequent among newborns of migrant mothers (26.0% vs. 16.3%).

Isolated crying, which may reflect non-specific neonatal concerns, was more frequent among migrants (15.3% vs. 5.4%), as were stool changes (6.7% vs. 1.8%). Other reasons for admission, including skin and soft tissue conditions, eye conditions, vomiting, and temperature abnormalities, showed similar frequencies between groups.

Regarding primary discharge diagnoses (Table 4), the category "no disease" was the most frequent, accounting for 43.3% of cases (n = 69/159). This category included episodes in which no specific disease was identified after clinical evaluation and/or diagnostic testing, mainly corresponding to benign neonatal concerns or parental reassurance. These included gastrointestinal pattern concerns (n = 6), feeding or breastfeeding difficulties (n = 8), umbilical stump care (n = 4), eye hygiene issues (n = 2), and nasal saline cleaning (n = 4). Additional benign diagnoses included physiological neonatal dermatoses (n = 8), infant colic (n = 13), urate crystals in urine (n = 2), neonatal withdrawal vaginal bleeding (n = 1), gastroesophageal reflux (n = 5), cephalohematoma (n = 2), and overheating (n = 3).

A significant overall difference in diagnostic category distribution was observed between groups (p = 0.047). Neonatal jaundice was more frequent than expected among non-migrants (32.7% vs. 12.5%), contributing to the observed difference. Although "no disease" was the most common diagnosis in both groups, it was more frequent among newborns of migrant mothers (49.0% vs. 32.7%).

Prior referral to the ED was significantly less frequent among migrants (35% vs. 60%; p = 0.002). The SNS24 telephone triage line was the main referral source for migrant families (67.0% of referred cases), whereas referral from primary health care centers was most common among non-migrants (45.0%).

Among newborns of migrant mothers, "no disease" was the most frequent diagnosis regardless of referral status (41.7% among referred vs. 52.2% among

non-referred). In contrast, among non-migrants, physiological hyperbilirubinemia predominated among referred cases (45.5% vs. 13.0%), whereas "no disease" was more frequent among non-referred cases (39.1% vs. 27.3%).

Attempts at prior assessment in primary care were less frequent among migrants (25% vs. 36%), although this difference was not statistically significant (p = 0.13). No relevant differences were observed in hospitalization rates (11% vs. 18%; p = 0.2). However, the use of diagnostic tests was significantly more frequent among non-migrants (58% vs. 27%; p < 0.001). These data are presented in Table 2.

Hospitalizations

Among the 21 hospitalized newborns, 11 were children of migrant mothers and 10 of non-migrant mothers (Table 5). Physiological neonatal hyperbilirubinemia was the most frequent reason for hospitalization, accounting for 33.3% of cases, with a higher proportion among non-migrants (n = 5/10; 50.0%) compared with migrants (n = 2/11; 18.2%).

Other diagnoses leading to hospitalization included acute bronchiolitis (n = 3), neonatal conjunctivitis (n = 1), hypoglycemia (n = 1), impetigo (n = 1), viral infection (n = 2), dehydration (n = 2), staphylococcal scalded skin syndrome (n = 1), late-onset neonatal sepsis (n = 1), and acute nasopharyngitis (n = 1). One hospitalized case was classified as "no disease," corresponding to a non-migrant newborn admitted due to grunting, in whom no pathological diagnosis was identified after clinical and complementary evaluation.

Table 3- Reasons for admission of newborns to the pediatric emergency department during the neonatal period, according to migratory status

Reason for admission, n (%)[1]	**Total**	**Non migrant**	**Migrant**	**p value[2]**
Respiratory symptoms	36 (22.6%)	9 (16.3%)	27 (26.0%)	–
Jaundice	30 (18.9%)	16 (29.0%)	14 (13.5%)	–
Crying	19 (13.2%)	3 (5.4%)	16 (15.3%)	–
Skin and soft tissue conditions	16 (11.9%)	5 (9.0%)	11 (10.6%)	–
Vomiting	12 (7.5%)	6 (10.9%)	6 (5.8%)	–
Eye conditions	11 (6.9%)	4 (7.2%)	7 (6.7%)	–
Stool changes	8 (5.0%)	1 (1.8%)	7 (6.7%)	–
Umbilical stump issues	6 (3.8%)	2 (3.6%)	4 (3.8%)	–
Temperature abnormalities	6 (3.8%)	1 (1.8%)	5 (4.8%)	–
Poor weight gain	6 (3.8%)	3 (5.4%)	3 (2.8%)	–
Feeding difficulties	3 (1.9%)	1 (1.8%)	2 (1.9%)	–
Other	6 (3.8%)	4 (7.3%)	2 (2.8%)	–
Total	**159 (100%)**	**55 (100%)**	**104 (100%)**	**0.109**

[1] Results are presented as absolute numbers (n) and percentages (%).

[2] Group comparisons were performed using the Pearson chi square test or Fisher's exact test.

Table 4 - Primary discharge diagnoses observed in newborns evaluated in the pediatric emergency department, according to migratory status

Reason for admission, n (%)[1]	**Total**	**Non migrant**	**Migrant**	**p value[2]**
No disease	69 (43.3%)	18 (32.7%)	51 (49.0%)	–
Metabolic / hydro-electrolytic	40 (25.1%)	22 (40.0%)	18 (17.3%)	–
Physiological hyper-bilirubinemia	31 (19.4%)	18 (32.7%)	13 (12.5%)	–
Dehydration / poor weight gain	8 (5.0%)	4 (7.3%)	4 (3.8%)	–
Hypo-glycemia	1 (0.6%)	0 (0.0%)	1 (0.9%)	–
Respiratory	33 (20.7%)	10 (18.2%)	23 (22.1%)	–
Acute naso-pharyngitis	29 (18.2%)	8 (14.5%)	21 (20.2%)	–
Acute bron-chiolitis	3 (1.9%)	2 (3.6%)	1 (0.9%)	–
Laryn-gomalacia	1 (0.6%)	0 (0.0%)	1 (0.9%)	–
Infectious	19 (11.9%)	5 (9.1%)	14 (13.5%)	–
Neonatal conjunctivitis	8 (5.0%)	3 (5.5%)	5 (4.8%)	–
Perineal/oral candidiasis	2 (1.3%)	2 (3.6%)	0 (0.0%)	–
Non specific viral infection	**2 (1.3%)**	**0 (0.0%)**	**2 (1.9%)**	**–**
Varicella	**2 (1.3%)**	**0 (0.0%)**	**2 (1.9%)**	**–**
Late onset neonatal sepsis	**1 (0.6%)**	**0 (0.0%)**	**1 (0.9%)**	**–**
Impetigo	**1 (0.6%)**	**0 (0.0%)**	**1 (0.9%)**	**–**

Staphylococcal scalded skin syndrome	**1 (0.6%)**	**0 (0.0%)**	**1 (0.9%)**	**–**
Total	**159 (100%)**	**55 (100%)**	**104 (100%)**	**0.047**

[1] Results are presented as absolute numbers (n) and percentages (%).

[2] Group comparisons were performed using the Pearson chi-square test or Fisher's exact test.

Discussion

Overall analysis and continuity with local evidence

The results of this study should be interpreted in comparison with a similar study conducted at the same hospital in 2007, while acknowledging relevant methodological differences between the two studies.[2] In that study, newborns accounted for approximately 3% of ED admissions, with a predominance of clinically unjustified episodes (68%) and a hospitalization rate of 11%, mostly due to neonatal jaundice (53%).[2]

In the present study, newborns represented 1.2% of ED admissions, reflecting a relative reduction in neonatal ED use over time. Nevertheless, a clear conceptual continuity persists, with the diagnosis of "no disease" remaining the most frequent (43%), indicating the ongoing use of emergency services for benign conditions and caregiver concerns, as previously described.[2] These findings are consistent with other national studies reporting a high proportion of non-urgent neonatal ED visits and an association between prior referral and higher hospitalization rates.[3,8]

A multicenter Canadian survey-based study identified jaundice, feeding difficulties, gastrointestinal concerns, and respiratory symptoms as the main reasons for neonatal ED use. Importantly, the decision to attend the ED was often driven by the need for parental reassurance and prior advice from health care professionals rather than by objective signs of severity.[9]

An increase in referral rates to the ED was also observed over time. In 2007, only 19% of newborns were referred, mostly by primary health care services, whereas in the present study 43% were referred, with a predominance of referrals through a telephone triage line.[2] This change likely reflects the implementation of a program in 2024, which promotes preferential prior referral to the ED.

The overall hospitalization rate in the present study was 13%, similar to that reported in 2007 and consistent with international studies describing rates between 10% and 15%, mostly associated with jaundice and infections.[4-5] This rate is substantially higher than the overall hospitalization rate of the pediatric ED where the study took place (approximately 3%), reinforcing the role of the ED in identifying neonatal conditions requiring hospital-level surveillance or treatment despite the high proportion of benign presentations.

Comparison between newborns of migrant and non-migrant mothers

In the comparative analysis, the groups were broadly similar in demographic and perinatal characteristics, differing only in age at presentation, with newborns of migrant mothers presenting at slightly older ages. This finding may reflect differences in postnatal follow-up or in initial access to health care services.

Although no statistically significant global differences were found in reasons for ED admission, distinct patterns emerged. Newborns of migrant mothers more frequently presented with non-specific parental concerns, whereas clinical conditions such as jaundice were more prominent among non-migrants. More pronounced differences were observed in health care trajectories: newborns of migrant mothers showed lower integration into primary health care services, distinct referral pathways with greater reliance on the telephone triage line, and a higher proportion of episodes classified as "no disease," while non-migrant newborns displayed a higher prevalence of hyperbilirubinemia and greater use of diagnostic tests.

Referral to the pediatric ED during the neonatal period did not appear to be associated with a distinct clinical severity profile or diagnostic typology in either group. These findings may reflect a precautionary referral approach in the neonatal period and support the need for future research into the appropriateness of referrals and coordination between primary and hospital care.

Despite differences in access and care pathways, hospitalization rates were similar between groups, suggesting comparable overall clinical severity, although the limited number of hospitalizations warrants cautious interpretation.

The lower integration of newborns of migrant mothers into scheduled health care is consistent with recent national and international evidence documenting persistent barriers to primary health care access among foreign citizens, including administrative, procedural, and informational obstacles.[1,6] These barriers may compromise continuity of care during the neonatal period and contribute to the use of the ED as a preferred entry point into the health system.

Beyond structural access limitations, the literature highlights additional factors influencing higher hospital service use among migrant families, including heightened perceived illness severity, unrestricted access to emergency services, and the attenuation of social barriers in the emergency context.[7, 9-10]

The aforementioned Canadian study further demonstrated that parents of newborns value resources that facilitate rapid access to advice and nearby care when deciding to attend the ED, such as open-access specialist consultations, 24-hour telephone advice, easy access to the primary physician, and postnatal home visits. A substantial proportion of parents reported that same-day or next-day consultations could have prevented ED attendance, supporting the hypothesis that limited timely access to structured neonatal care contributes to ED use, particularly among vulnerable populations.

International studies, including those from the United States, corroborate that neonatal ED use is influenced by structural and social determinants, with higher utilization among vulnerable groups and in contexts of social support.[11]

Finally, qualitative studies and systematic reviews

highlight dissatisfaction among migrant mothers with maternal and child health care, often related to linguistic and cultural barriers, which may increase parental insecurity and hinder navigation of health care pathways.[12-14] These findings emphasize the importance of clear access pathways, linguistic support, and low-threshold services.

Limitations

This study has several limitations. First, its single-center and cross-sectional design limits generalizability and causal inference. Second, the high proportion of exclusions due to identification issues, refusal, or incomplete data introduces potential selection bias. Third, maternal migratory status was operationalized based on non-Portuguese nationality with residence in Portugal, a pragmatic definition that may not fully capture migratory heterogeneity (e.g., second-generation migrants or different legal statuses).

Conclusion

In this study, newborns of migrant mothers accounted for the majority of neonatal ED visits and showed lower integration into primary health care services.

Beyond universal determinants of neonatal ED use, the findings suggest the presence of structural and organizational barriers that condition access to and continuity of care for migrant families, contributing to ED utilization for benign conditions. Interventions aimed at early postnatal follow-up, improved access to primary health care, optimization of non-face-to-face referral pathways and the development of culturally and linguistically adapted communication and health literacy strategies during both the prenatal and postnatal periods may help reduce avoidable ED use and promote greater equity in health care delivery.

Compliance with Ethical Standards

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Conflict of Interest: None

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