

## Inadequate admission and readmission of child/youth to the pediatric emergency department: integrative review

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### Abstract

**Background:** children/youth often resort to the Pediatric Emergency Department (PED) repeatedly, which is considered inadequate use. It is essential to reduce the rates of emergency episodes of inadequate use, as a measure of efficiency and improved quality of care.

**Objective:** identify the motives that lead to inadequate admission and readmission of the child/youth to PED.

**Methodology:** this is an integrative review of the literature, using the methodology proposed by the Joanna Briggs Institute, by searching the PubMed, CINAHL Complete and MEDLINE Complete databases. 1944 articles were identified, 496 were selected and 13 were included.

**Results:** of the motives that lead to the inadequate admission and readmission of children/youth to PED, it was possible to highlight: parents'/caregivers' concern about their children's health, limited access to Primary Health Care, the advantages of PED, the parents'/caregivers' socioeconomic level and the presence of mental and social disorders in the child/youth.

**Conclusion:** most studies find that inadequate admission and readmissions of children/youth to PED are multifactorial and very complex to solve. It will be important to implement strategies to improve the health literacy, promote the parental role and optimize the use of different health services.

**Keywords:** pediatric emergency medicine; health services misuse; health care quality assurance

**Submissão:** 15/03/2024

**Aceitação:** 02/08/2024

## Introduction

The admission of the child/youth to the Pediatric Emergency Department (PED) for situations triaged as little or non-urgent is frequent (Ferreira, 2017). It can be considered an inadequate admission (Alele et al., 2018). Portuguese data, present in the study by Martins et al. (2020), reveal that 59% of frequent admissions to the PED were considered little or non-urgent, demonstrating the absence of indication for clinical observation at this level of care. Despite the decrease in emergency episodes in 2020 and 2021, as a result of health measures and the decrease in the movement of people to control the Coronavirus Disease 2019 pandemic (COVID-19), and considering the strategies implemented at national level to reduce the rates of inadequate use, after May 2022 the numbers returned to resemble those of the pre-pandemic years (Administração Central do Sistema de Saúde IP, 2022). In November 2022, Normative Circular No. 11/2022 of the Central Administration of the Health System appears: "Portugal has significantly higher rates of care in hospital urgent/emergency services than other countries of the Organization for Economic Cooperation and Development (OECD), with studies identifying that about 30% of these visits should not occur at that level of care provision" (Administração Central do Sistema de Saúde IP, 2022, p. 2).

Readmission after initial admission is a common and costly phenomenon, with portuguese records of readmission rates in the order of 6.9% in 2018, 7.92% in 2017, and american studies reveal readmission rates around 18% (Tavares, 2019). According to Alele et al. (2018), readmission can also be considered inadequate, of little or non-urgent use, inappropriate, excessive, recurrent and even avoidable, and there is no consensus on the best term to be used. Of course, not all readmissions are inadequate, since there may be a worsening of the child's/youth's clinical situation, and it may actually be necessary to go to the PED again.

For the National Health Service (NHS) it is essential to reduce the admission and readmission rates of emergency episodes of inadequate and avoidable use in the PED, being a measure of efficiency and improvement of the quality of care, as it minimizes situations of excess demand and saturation of the PED, reserving it for the most serious situations. It is also more efficient and safer for the most severe user (Administração Central do Sistema de Saúde IP, 2022). Martins et al. (2020) and Gross et al. (2023) also state that the use of the PED motivated by non-urgent situations has potential effects on the quality of care and safety of the user, caused by overcrowding of the service, delays in carrying out triage and in the reassessment of the child/youth after triage and/or after clinical interventions, long waiting times, reducing the satisfaction of parents/caregivers and may favor abandonment of the service, delays in the administration of therapy, greater probability of medical errors and errors in the calculation of therapeutic doses, and greater probability of the child/youth significantly ill being discharged early or with inadequate treatment.

Paradoxically, children/youth have never been as healthy as they are today, due to the advancement of medicine and the evolution of healthcare, which demonstrates the need for a targeted and individualized approach (Montoro-Pérez et al., 2023) and the strengthening and reorganization of services in order to ensure adequate and timely access for pediatric users, and their family, who seek health care in a situation of illness (Administração Central do Sistema de Saúde IP, 2022). The expectations of parents/caregivers with the care and quality of care must be ensured, constituting a duty of health professionals. This is why this research is fundamental, whose objective is to identify the motives that lead to inadequate admission and readmission of the child/youth to PED, based on scientific production.

## **Methodological review procedures**

It is an integrative literature review, elaborated according to six stages: identification of the theme and elaboration of the research question; establishment of inclusion and exclusion criteria; database research;

evaluation of included studies; critical analysis of them and presentation of the review/synthesis of knowledge (Sousa et al., 2017).

In the first stage, the elaboration of the research question, the PCC strategy was adopted, through the Joanna Briggs Institute (JBI) method (Tufanaru et al., 2020), according to the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) (Page et al., 2021), in which "P" refers to the Participants, "C" to the Concept and "C" to the Context. Thus, the following were defined: P - Child/youth, from birth to 18 years of age, and their parents/caregivers; C - Motives that lead to inadequate admission and readmission; C – PED. According to this strategy, the following guiding question was defined: what are the motives that lead to the inadequate admission and readmission of the child/youth to PED?

In the second stage, the inclusion criteria were the original articles published in full-text, which consider the child/youth from birth to 18 years of age, and their parents/caregivers, addressing the motives that lead to the inadequate admission and readmission of the child/youth to the PED. The languages were Portuguese and English and the time between 2018 and 2023. The exclusion criteria were defined as studies where users from 18 years of age were considered, studies that were not presented in Portuguese and English, with a time frame less than 2018 and without access to the full text.

The research was carried out from March to June 2023, in the following databases: biomedical PubMed, nursing journals CINAHL Complete and biomedical and health journals MEDLINE Complete.

The health descriptors used were: health services misuse; misuse of health services; abuse of health services; emergency service, hospital; hospitals, pediatric; adolescent; child; infant. The boolean operators used were "and" and "or".

The process of analysis and selection of studies took place with the help of the Rayyan platform, in which the articles were thoroughly analyzed for eligibility by two independent researchers. Some differences were reconciled by mutual agreement. 1944 articles were retrieved from the databases. By reading the title and abstract, 1376 were excluded and 72 were duplicated. Thus, 58 articles were evaluated through full-text reading. At this stage, 45 articles were excluded through the application of the exclusion criteria. After all the critical analysis, 13 articles were included for data extraction (Figure 1).

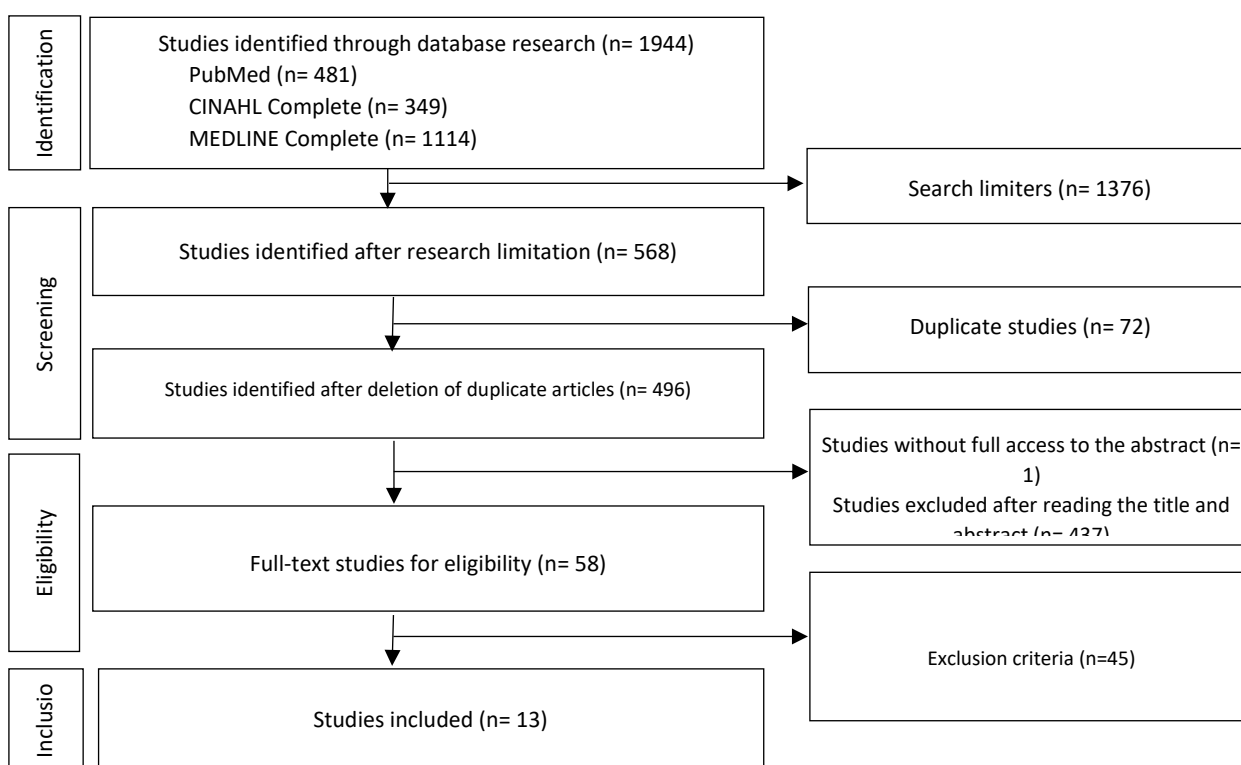


Figure 1 Flowchart of the selection and inclusion process of studies (Page et al., 2021)

## Results

The results with the synthesis of the included articles are shown in Table 1. Thirteen studies were published in English, one is from 2023, one from 2022, four from 2020, five from 2019 and two from 2018. Regarding the level of evidence, based on Melnyk & Fineout-Overholt (2011), it was found that two studies fell into level 7, nine into level 6 and two into level 4.

Table 1 Characteristics of the studies included (n=13)

Author(s)	Country / Year of publication	Type of study	Level of evidence	Population / sample under study
Akbayram & Coskun	Turkey / 2020	Cross-sectional study	6	457 parents of children between 1 month and 16 years of age, who used the PED of the Gaziantep University Medical Faculty hospital and who were screened with a green bracelet
Haasz et al.	Canada / 2018	Prospective, cross-sectional, survey-based study	6	Pediatric user with a score of 4 or 5 on the Canadian Pediatric PED Triage of the Hospital for Sick Children
Kurt et al.	Turkey / 2020	Cross-sectional study	6	1033 parents of children/youth up to 18 years of age who used the PED of Ankara University Faculty of Medicine, between 5pm and 8am, presenting a score of 4 and 5 in the Canadian Pediatric Triage
McLauchlan et al.	United Kingdom / 2019	Qualitative study	6	Children/youth who are categorized through the National Triage Scale as Category D (standard) or E (non-urgent) on arrival at the PED, considered by the Triage Nurse to have a possible clinical situation of treatment in Primary Health Care
Alele et al.	Australia / 2018	Cross-sectional retrospective study	6	Children between the ages of 0 and 5 who reported to the PED at Cairns Hospital between 1 January 2010 and 31 December 2013
Martins et al.	Portugal / 2020	Intervention study	6	All children/youth up to 16 years of age considered frequent users of the PED of a level II hospital (more than 10 admissions in one year to the PED)
Lei et al.	China / 2019	Cross-sectional study	6	Children/youth who have used PED from 0-14 years of age in some hospitals in central and western China
Abdulla et al.	United States of America / 2020	Retrospective cohort study	4	732 mothers of 866 preterm infants (<37 weeks gestational age) who were in the Neonatal Intensive Care Unit of the Hospital of Rhode Island for more than 5 days. Immigrant mother status was taken into account
Alele et al.	Australia / 2019	Systematic review of the literature	7	Pediatric population

Rana et al.	United States of America / 2023	Retrospective chart-review study	6	Children aged 5 to 12 years who presented to a psychiatric PED from July 2012 to June 2018
Bushnell et al.	New York / 2019	Comparison cohort	4	Children/youth from 3 to 17 years of age, in whom the diagnosis of anxiety disorder was made between 2005 and 2014, according to the MarketScan database
Hoge et al.	United States of America / 2022	Literature review	7	Children/youth up to 18 years of age, with some articles that include adolescents up to 25 years of age, who were admitted to the PED with a diagnosis of mental disorder or substance use
Lynch et al.	United States of America / 2019	Retrospective observational design	6	Children/youth aged 18 years and under with a diagnosis of behavioural problems, with PED admissions between October 2011 and June 2012

After analyzing the studies, the most relevant data from each study were grouped, as shown in Table 2. Thus, five categories were created that summarize the motives that lead to the inadequate admission and readmission of the child/youth to the PED: parents/caregivers' concern with their children's health; limited access to Primary Health Care (PHC); advantages of the PED; socioeconomic level of parents/caregivers and presence of mental and social problems in the child/youth.

Table 2 Summary of the analysis of the studies

Categories	Studies / Author(s)
Parents/caregivers' concern for their children's health	Akbayram & Coskun (2020); Haasz et al. (2018); Kurt et al. (2020); McLauchlan et al. (2019); Martins et al. (2020); Lei et al. (2019); Abdulla et al. (2020)
Limitation on access to PHC	Akbayram & Coskun (2020); Haasz et al. (2018); Kurt et al. (2020); Martins et al. (2020)
Advantages of PED	Akbayram & Coskun (2020); Haasz et al. (2018); Kurt et al. (2020); McLauchlan et al. (2019); Alele et al. (2019)
Socioeconomic level of parents/caregivers	Kurt et al. (2020); Alele et al. (2018); Hoge et al. (2022)
Presence of mental and social problems in the child/youth	Rana et al. (2023); Bushnell et al. (2019); Hoge et al. (2022); Lynch et al. (2019)

### Parents/caregivers' concern for their children's health

Regarding the analysis of the article by Akbayram & Coskun (2020), in addition to the motives that justify adequate admission, such as the perception that the child needed emergency care (17.3%) and the child's clinical situation being very urgent (33.7%), motives were pointed out that justify inadequate admissions or readmissions by the belief that the clinical situation could worsen (42.5%) and by the desire for the child to be observed by the Pediatrician (67.8%).

Haasz et al. (2018), in the study on the potential motivations of parents/caregivers to use the PED, found the following results: to consider that the child's clinical situation was worsening (53.8%) and to request a second opinion (28%).

The article by Kurt et al. (2020) also allowed us to understand the motives for non-urgent admissions to the PED, namely: concern about the progression of the disease (87.3%) and, although the parents/caregivers

recognized that the situation was not urgent, there was concern about the clinical situation of the child/youth (41.6%).

McLauchlan et al. (2019) state that there are some factors that influence the perception of the adequacy of admission to PED: the perception of the severity of the clinical situation and uncertainty regarding the severity or urgency of a clinical situation. They also mention that half of the parents/caregivers believed that they were using the most appropriate service in view of the child/youth's clinical situation.

Martins et al. (2020) point out as motives for recurrent admission to the PED the inexperience and anxiety felt by parents/caregivers, the higher frequency of infectious diseases up to the age of three and the younger age of the child.

Lei et al. (2019) demonstrated with their study that the child/youth's health status, the disease, the length of stay in the service and the doctor's assessment of the family's feelings and emotions were determinants for inadequate admissions or readmissions. They noticed that less healthy children/youth were more likely to have adequate admissions than healthier children/youth. They also say that the highest rate of inadequate admissions to PED was found among children aged 1 to 5 years (68.42%).

Abdulla et al. (2020) report that one of the motives for PED admissions by immigrant mothers is the presence of non-medical stressors.

#### **Limitation on access to PHC**

The limitation in access to PHC was another motive for inadequate admission to PED and present in the study by Akbayram & Coskun (2020), when they point out the fact that the Family Doctor is not providing care at the moment (20.4%).

According to Haasz et al. (2018), the following stand out as factors for admission to PED: the case of PHC being closed when it is necessary to resort to health services (45.8%); parents/caregivers were unable to make an appointment at the PHC (34.7%); the possibility of the child being redirected from the PHC to the PED (28.5%); for the excessively long wait in the PHC (25.5%) and for not having a Family Doctor (8.8%).

As Kurt et al. (2020) describe, the following may be factors for admission to the PED: health complaints arise at a time that is out of step with PHC (84%); because parents/caregivers are working during PHC opening hours (39.6%) and because of the difficulty in making an appointment at PHC (24.5%).

Martins et al. (2020) also point to limited access to PHC as an important factor associated with a higher number of inadequate admissions and readmissions to the PED.

#### **Advantages of PED**

The study by Akbayram & Coskun (2020) reveals that the fact that PED provides care faster and more reliably (19.9%) is an advantage and helps inadequate admissions or readmissions.

Haasz et al. (2018) pointed out the following motivations for parents/caregivers to use PED: PED had specialists who were more able to take care of the child (93.1%); it is easier to perform complementary diagnostic tests in the PED (80.8%); the PED schedule is more convenient (68%); parents/caregivers prefer to use PED than a general practitioner when their child is sick (59%); the hospital has a privileged location (48.1%); in the PED the child is observed more quickly (45.4%); preferring PED to a pediatric clinic when the child is sick (35.4%); the service being faster in the PED than in the PHC or in a clinic (33.7%); preferring PED to PHC when their child is sick (31.4%) and the fact that the PED doctor already knows their child (24%).

According to Kurt et al. (2020), the motives for inadequate admission to PED are due to the idea that they are better received in this service (57.4%); believing that the care provided is better at the PED (57.2%); the PED team relieves more anxiety from parents/caregivers (49.2%); the result of complementary diagnostic tests being given more quickly at the PED (35.1%); the waiting time is shorter at the PED (31.1%) and they have a greater preference for the PED for its convenience.

According to McLauchlan et al. (2019), the perception that the PED has resources only available in this service, awareness of alternative services and the fact that in previous use of alternative services there has been a referral to PED influenced the decision of parents/caregivers to use PED.

The study by Alele et al. (2019) point out the availability of the PED after working hours and the willingness to use the PED as facilitating factors for admission.

#### **Socioeconomic level of parents/caregivers**

The article by Kurt et al. (2020) points to economic reasons as a motive for non-urgent admission to the PED, also verifying that admissions were more frequent among parents/caregivers with basic education and under the age of 30. Hoge et al. (2022) also report that lower socioeconomic status is a predictor of repeated admissions to the PED. However, Alele et al. (2018) report that there was a higher rate of PED use in little or non-urgent situations in children/youth from families with medium to very high socioeconomic status compared to the low level.

#### **Presence of mental and social problems in the child/youth**

Rana et al. (2023) points out that the increase in the use of the emergency service, recurrent admissions, and the increase in the length of stay in the service is associated with mental and social problems, having been found in children/youth with suicidal ideation, self-mutilation behaviors, history of abuse, anxiety and diagnosis of depression and/or autism.

Bushnell et al. (2019) identified that 2% of children diagnosed with anxiety disorder had 1.4% of PED admissions related to anxiety and 20% PED admissions for another motive. The incidence of PED admissions was high in older children diagnosed with depression.

Hoge et al. (2022) report that the numbers of PED admissions related to mental and social problems have increased over time among children/youth. Adolescent males have higher rates of admission to PED related to mental and social problems, when compared to females and children. Children/youth belonging to minority groups and in relation to race/ethnicity have a significant higher risk of resorting to PED due to mental and social problems, both due to poverty, racism, stress and the risk of having more distressed parents/caregivers. LGBTQIA+ individuals have a greater inclination to present admissions to PED.

Lynch et al. (2019) report that children/youth who were classified as frequent users of PED were more likely to be older. Those who were african american were more likely to have four or more admissions than caucasian children/youth, as were children/youth with a diagnosis of substance use disorder, compared to youth with other diagnoses of behavioral problems.

## **Discussion**

The admission and readmission of the child/youth to the PED is carried out mainly at the expense of false emergencies, implying an increase in economic and human resources costs (Moura et al., 2022). The results of our study showed that the motives that lead to the inadequate admission and readmission of the child/youth to the PED are related to the concern of parents/caregivers with the health of their children, the limitation in access to PHC, the advantages of PED, the socioeconomic level of parents/caregivers and the presence of mental and social problems in the child/youth.

Regarding the parents/caregivers' concern and the respective anxiety and psychological suffering felt, parents/caregivers often understand that the clinical situation is not urgent but prefer to use the PED in order to mitigate feelings of apprehension and clarify their doubts. Frequently the essential condition is that they feel relief from anxiety when contacting the multidisciplinary PED team (Kurt et al., 2020).

Parents/caregivers who only have one child and are experiencing parenthood for the first time have a consequent inexperience to correctly interpret the signs and symptoms of the disease, to understand the severity of the clinical situation and to apply treatment appropriately. They also regularly have uncertainties regarding the severity, urgency and severity of their child's clinical situation, fear that it may worsen and that their health is at great risk (McLauchlan et al., 2019). More than half of the time, parents/caregivers considered that their child's clinical situation was worsening, which was one of the main motives for using PED according to Haasz et al. (2018). However, according to the same authors, parents/caregivers often turn to PED to request a second medical opinion, due to the insecurities or uncertainties felt.

With regard to the limitation of access to PHC, the fact that PHC has reduced service hours means that outside of opening hours, the only public service place available is the PED, thus increasing the respective admission and readmission rates. The frequent mismatch between parents/caregivers' working hours and PHC's working hours makes it impossible for them to resort to such a level of care (Kurt et al., 2020). If easy access and proper functioning of PHC were ensured, this would be a powerful factor in reducing admission and readmission rates to PED and consequently would have a positive impact on its overcrowding and quality of service. Akbayram & Coskun (2020) have the same opinion, strengthening the need to improve the quality and access to PHC, also highlighting the fundamental role that PHC plays in the health education of parents/caregivers.

Concerning to the advantages of PED, it is always available for care, offering full-time care, every day of the year, being a motive for parents/caregivers to resort to this level of care (Haasz et al., 2018). Another advantage is the fact that it is not necessary to have prior authorization or appointment before using the PED, and therefore its access is easier compared to PHC. Another aspect pointed out in the choice of PED is the possibility of the child/youth being observed by a Pediatrician. It is also possible to say that PED provides faster quality care, ensuring immediate care, and the execution and result of complementary diagnostic tests is also given more quickly (Akbayram & Coskun, 2020; Haasz et al., 2018; Kurt et al., 2020; McLauchlan et al., 2019; Alele et al., 2019).

The socioeconomic level of the parents/caregivers is another motive that is related to the inadequate admission and readmission of the child/youth to the PED, with more recurrent admissions to the PED when the parents/caregivers have a low level of education and are younger (Kurt et al., 2020) or low socioeconomic status (Hoge et al., 2022). On the other hand, according to the study by Alele et al. (2018), higher socioeconomic levels also have a weight in readmission rates. Thus, it is considered that the socioeconomic level of parents/caregivers is not unanimous and that both low and high socioeconomic status have effects on the demand for care in the PED.

Another interesting finding was that non-urgent admissions related to mental and social problems increased over time among children/youth and more frequently in male adolescents (Hoge et al., 2022). In fact, mental health problems in children/youth are a growing challenge (Javed et al., 2021) and should be considered as an absolutely crucial area of health policies, but also in relation to education, social protection and the defense of human rights (Xavier, 2021). The presence of a multidisciplinary team dedicated to pediatric mental health and the regular monitoring of the child/youth is also crucial, associated with improvements in health, shorter periods of stay on PED and a reduction in readmissions on PED. Teleconsultation also makes it possible to reduce inadequate admissions and readmissions (Lynch et al., 2019).

## **Conclusion**

The inadequate use of PED has a direct impact on the quality of care for children/youth and their families, and it has become clear that the motives for inadequate admissions and readmissions to PED are



multifactorial and very complex to solve. The use of PED can translate stress associated with the parental role and/or lack of knowledge and skills to identify urgent situations, but also the perception of a more accessible and quality service with care by specialized personnel.

Thus, a targeted, individualized approach and the implementation of strategies to improve health literacy, promote the child's parental role and autonomy, and optimize the use of different health services is important. It is recognized that mechanisms should be created to support clinical resolution in other types of contexts, with a focus on: "increasing access to scheduled hospital activity; strengthen the responses of primary health care, the national network of integrated long-term care, the sector and the community; improve the articulation between NHS services, namely through the redirection of the so-called "less/non-urgent" cases with guaranteed care". The implementation of strategies to reduce the rates of admission and readmission to the PED necessarily implies the strengthening and dissemination of mechanisms that guarantee adequate and timely access for pediatric users, and their families, who seek health care in situations of illness (Serviço Nacional de Saúde, Administração Central do Sistema de Saúde IP, 2022, p. 3).

As a suggestion, more research on this theme should arise, in order to explore this reality in other sociocultural contexts and be able to perform on them.

## Bibliographic References

Abdulla, L., McGowan, E. C., Tucker, R. J., & Vohr, B. R. (2020). Disparities in preterm infant emergency room utilization and rehospitalization by maternal immigrant status. *The Journal of pediatrics*, 220, 27-33. <https://doi.org/10.1016/j.jpeds.2020.01.052>

Administração Central do Sistema de Saúde, IP. (2022). Circular normativa nº 11/2022/ACSS. Termos de referência dos episódios de urgência classificados na triagem de prioridades como Pouco Urgentes / Não Urgentes / Encaminhamento inadequado para o Serviço (cor verde, azul ou branca, respetivamente) nos serviços de urgência hospitalares para os cuidados de saúde primários e outras respostas hospitalares programadas.

[https://www.ulsna.min-saude.pt/wp-content/uploads/sites/7/2022/08/Circular\\_Normativa\\_11\\_2022.pdf](https://www.ulsna.min-saude.pt/wp-content/uploads/sites/7/2022/08/Circular_Normativa_11_2022.pdf)

Akbayram, H. T., & Coskun, E. (2020). Paediatric emergency department visits for non-urgent conditions: Can family medicine prevent this?. *European Journal of General Practice*, 26(1), 134-139. <https://doi.org/10.1080/13814788.2020.1825676>

Alele, F. O., Callander, E. J., Emeto, T. I., Mills, J., & Watt, K. (2018). Socio-economic composition of low-acuity paediatric presentation at a regional hospital emergency department. *Journal of Paediatrics and Child Health*, 54(12), 1341-1347. <https://doi.org/10.1111/jpc.14079>

Alele, F. O., Emeto, T. I., Callander, E. J., & Watt, K. (2019). Non-urgent paediatric emergency department presentation: A systematic review. *Journal of Paediatrics and Child Health*, 55(3), 271-277. <https://doi.org/10.1111/jpc.14352>

Bushnell, G. A., Gaynes, B. N., Compton, S. N., Dusetzina, S. B., Brookhart, M. A., & Stürmer, T. (2019). Incidence of mental health hospitalizations, treated self-harm, and emergency room visits following new anxiety disorder diagnoses in privately insured US children. *Depression and anxiety*, 36(2), 179-189. <https://doi.org/10.1002/da.22849>

Ferreira, I. M. F. (2017). Procura numa urgência pediátrica: Fatores que mais contribuem para a afluência de casos não urgentes [Dissertação de mestrado, Universidade do Porto]. Repositório Aberto da Universidade do Porto. <https://repositorio-aberto.up.pt/handle/10216/109378>

Gross, T. K., Lane, N. E., Timm, N. L., & THE COMMITTEE ON PEDIATRIC EMERGENCY MEDICINE (2023). Crowding in the emergency department: Challenges and recommendations for the care of children. *Pediatrics*, 151(3). <https://doi.org/10.1542/peds.2022-060971>

- Haasz, M., Ostro, D., & Scolnik, D. (2018). Examining the appropriateness and motivations behind low-acuity pediatric emergency department visits. *Pediatric Emergency Care*, 34(9), 647-649. <https://doi.org/10.1097/PEC.0000000000001598>
- Hoge, M. A., Vanderploeg, J., Paris Jr, M., Lang, J. M., & Olezeski, C. (2022). Emergency department use by children and youth with mental health conditions: A health equity agenda. *Community Mental Health Journal*, 58(7). <https://doi.org/10.1007/s10597-022-00937-7>
- Javed, A., Lee, C., Zakaria, H., Buenaventura, R. D., Cetkovich-Bakmas, M., Duailibi, K., Ng, B., Ramy, H., Saha, G., Arifeen, S., Elorza, P. M., Ratnasingham, P., & Azeem, M. W. (2021). Reducing the stigma of mental health disorders with a focus on low- and middle-income countries. *Asian Journal of Psychiatry*, 58, 102601. <https://doi.org/10.1016/j.ajp.2021.102601>
- Kurt, F., Beğde, F., Oğuz, S., Tekin, D., & Suskan, E. (2020). How important are parental age and educational level in nonurgent admissions to the pediatric emergency department? *Pediatric Emergency Care*, 36(9), 414–418. <https://doi.org/10.1097/PEC.0000000000001886>
- Lei, S. H., Zhang, Y., Li, H. M., Su, D., Chang, J. J., Hu, X. M., ... & Chen, Y. C. (2019). Determinants of inappropriate admissions of children to county hospitals: A cross-sectional study from rural China. *BMC Health Services Research*, 19(1), 1-11. <https://doi.org/10.1186/s12913-019-3944-1>
- Lynch, S., Pines, J., Mutter, R., Teich, J. L., & Hendry, P. (2019). Characterizing behavioral health-related emergency department utilization among children with Medicaid: Comparing high and low frequency utilizers. *Social work in health care*, 58(8), 807-824. <https://doi.org/10.1080/00981389.2019.1653418>
- Martins, M., Marques, R., Sousa, M., Valério, A., Cabral, I., & Almeida, F. (2020). Frequent users of the pediatric emergency department: To know, to intervene and to evaluate - a pilot study. *Acta Médica Portuguesa*, 33(5), 311-317. <https://doi.org/10.20344/amp.12769>
- McLauchlan, K., Ramlakhan, S., & Irving, A. (2019). Why do parents present to the paediatric emergency department with conditions suitable for management in less acute settings? A qualitative study. *European Journal of Emergency Medicine*, 27(1), 40-45. <https://doi.org/10.1097/MEJ.0000000000000611>
- Melnyk, B. M., & Fineout-Overholt, E. (2011). Making the case for evidence-based practice. In *Evidence-based practice in nursing & healthcare: A guide to best practice* (2nd ed, pp. 3-24). Lippincot Williams & Wilkins.
- Montoro-Pérez, N., Richart-Martínez, M., & Montejano-Lozoya, R. (2023). Factors associated with the inappropriate use of the pediatric emergency department. A systematic review. *Journal of Pediatric Nursing*, 69,38-46. <https://doi.org/10.1016/j.pedn.2022.12.027>
- Moura, M. I., Martins, J., & Ribeiro, O. M. (2022). A criança com dispneia no serviço de urgência: Dados epidemiológicos para intervenção dos enfermeiros de reabilitação. *Revista Portuguesa de Enfermagem de Reabilitação*,5(2). <https://doi.org/10.33194/rper.2022.242>
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., ... & Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *International Journal of Surgery*, 88, 105906. <https://doi.org/10.1136/bmj.n71>
- Rana, G. S., Nordsletten, A., Sivananthan, M., & Hong, V. (2023). A 6-year retrospective review of psychiatric emergency service utilization by school-age children. *Clinical child psychology and psychiatry*, 28(1), 367-381. <https://doi.org/10.1177/13591045211070924>
- Sousa, L., Vieira, C., Severino, S., & Antunes, A. (2017). Metodologia da revisão integrativa da literatura em enfermagem. *Revista Investigação em Enfermagem*, 2ª Série (21), 17-26. <https://www.sinaisvitais.pt/images/stories/Rie/RIE21.pdf>
- Tavares, P. M. R. (2019). Causas da readmissão hospitalar na perspetiva do doente, na Unidade Local de Saúde de Matosinhos [Trabalho final de especialização, Universidade Nova de Lisboa]. RUN, Repositório da Universidade Nova de Lisboa. <http://hdl.handle.net/10362/96279>

Tufanaru C., Munn Z., Aromataris E., Campbell J., Hopp L. (2020). Revisões sistemáticas da eficácia. In: E. Aromataris & Z. Munn (Ed.). Manual JBI para síntese de provas. JBI. <https://synthesismanual.jbi.global>

Xavier, M. (2021). Editorial: Saúde mental na infância e adolescência: As intervenções na comunidade. Saúde Mental,4, 2.[https://saudemental.min-saude.pt/wp-content/uploads/2021/06/NL-04\\_SAÚDE-MENTAL.pdf](https://saudemental.min-saude.pt/wp-content/uploads/2021/06/NL-04_SAÚDE-MENTAL.pdf)