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“CAN I ACCOMPANY?”
PARENTS PRESENCE DURING PEDIATRIC
INTERFACILITY TRANSPORT

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ABSTRACT

Introduction: Pediatric inter-hospital transport follows the universal right of the child to access the most adequate medical care. This care process should seek to meet the needs of families, as well as the separation anxiety. In some areas of health, such as inpatient and resuscitation rooms, parental presence has shown some advantages. As far as transport is concerned, this strategy may also have benefits.

Objectives: To know the advantages and disadvantages of parental presence in pediatric inter-hospital transport.

Methods: An integrative review was performed based on the Joanna Briggs Institute protocol and through research studies on the EBSCO and PubMed databases over the past 20 years.

Results: Following the principles of the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) model, 7 articles were selected. Studies suggest that parental presence has positive impacts on separation distress, however, conditions are not always met to include parents as passengers.

Conclusion: The opinion of the teams about the presence of the parents during the transport is little consensual. Parents express a strong need for involvement in the transportation process. Some advantages and disadvantages of parental presence have been described, which can be seen in the future, the decision of the teams, about the presence of the parents as companions.

Keywords: Pediatric transport; interfacility transport; parental accompaniment; family.

INTRODUCTION

Transferring the child to a specialized treatment center is one of the key elements of the survival chain of the neonate and the pediatric patient⁽¹⁾. Specialized centres should have human and technological resources that permit the m a higher level of care or to enable the realization of diagnostic tests and/or treatment, not achievable in the service of origin⁽²⁾. Pediatric inter-hospital transport should be organized to respond to the child's right to receive the best possible health care⁽³⁾.

The pediatric transport organization is acquired in some countries, such as the United Kingdom, the United States of America (USA) and Australia⁽⁴⁾. In Portugal, the Pediatric Inter-hospital Transportation (TIP) service was created by the National Institute of Medical Emergency (INEM) in 2012, which was born from the junction of the newborn

transportation service, established in 1987, with the Advanced Support ambulance Pediatric Life (PALS) who had initiated functions in 2010. Due to the difficulty in placing differentiated teams in all hospitals⁽⁵⁾, up to now, four regionalised centers have been created at national level. In an integrated resource management policy, the hospitals must articulate with the INEM transport support in the critically ill patient⁽²⁾.

The point of separation between parents and children, the pediatric associated inter-hospital transportation, it is a destabilizing element and a source of anxiety and stress family⁽⁶⁾. Studies on the permission of parental presence during the trip to the destination hospital, are limited and little consensus⁽⁷⁾. Most of the articles focus on the development of pediatric transport systems, the clinical condition of the child, training/education, team building and other logistics issues. In legal terms, in Portugal, it is recognized in Law no. 33/2009 of July 14, that every citizen admitted to an emergency service has the right to have an accompanying person. On the other hand the Law No. 106/2009 of 14 September, children aged under 18 are entitled to permanent presence of the father and mother, or significant other when hospitalized. With regard to follow-up during the inter-hospital transport, there is no official document to clarify the situation, however, we should remember that the child has the right to non-separation of his parents, as is made clear in Article 9. Of the Convention on the Rights of the Child⁽⁸⁾.

The presence of family members in hospital context has effects on the reduction of separation anxiety and increases child satisfaction and collaboration in procedures⁽⁹⁾. Currently, it is believed that parental presence in the context of resuscitation helps the family in the mourning phase and in the perception of the efforts made by the teams^(6,10).

Interhospital transport is considered to be the continuity of care provided at a health institution, enabling central hospitals to broaden their community action^(2,4) and taking into account that family-centered care (CCF) should accompany care in pediatrics⁽¹¹⁾, it is also relevant to analyze the advantages/disadvantages of involving significant parents/ persons in this context from the perspective of families and transport teams.

METHODS

An integrative literature review was performed taking into account the principles of evidence-based research. This methodology allows synthesizing results obtained in research on a topic in a systematic, orderly and comprehensive manner⁽¹²⁾.

During this research, a research question was asked: "What are the advantages/disadvantages of parental presence in pediatric inter-hospital transport from the perspective of families and transport teams?" In response to the research question, inclusion criteria were outlined, elaborated them according to the methodology *PIOD* (*Participants, Intervention, Outcomes, Design*), in order to select the studies:

- *Population*: Transport teams and families of children who were transported;
- *Phenomena of interest*: analyzed studies should consider the presence of parents/significant person monitoring during pediatric inter-hospital transport;
- *Results*: results should include advantages and/or disadvantages, from the perspective of professionals and families on parental presence in pediatric inter-hospital transport;
- *Design*: The research will consider all types of studies.

It was defined as exclusion criteria, studies not indexed in electronic bases, articles that did not have the full text available and were not published in one of the following languages: Portuguese, English or Spanish.

The databases used were CINAHL Complete, Cochrane Database of Systematic Reviews, MedicLatina, MEDLINE Complete, Nursing & Allied Health Collection: Comprehensive (using the EBSCO search engine) and PubMed in the period from October to December 2017. The articles were selected using ad istintas combinations of descriptors, using the Boolean "AND" and tool "*", To cover multiple suffixes: *accompany AND children AND parents AND transport; children AND parents AND interhospital; accompany AND child AND parents AND transport; children AND parents AND interhospital; pediatric* AND family AND interfacility**.

Limiting filters were also imposed to set the timeline search, use n the lower limit is 1997 and the upper limit of the year 2017. The research was necessarily enlarged due to the low current literature on the subject and to include publications respond to the review question.

RESULTS

In accordance with the defined strategy, the bibliographic research resulted in 56 articles. This was followed by the reading of the titles and later the abstracts and 21 papers were analyzed in their entirety. After this analysis and according to the previously defined inclusion and exclusion criteria and objectives, 7 studies were selected to integrate this review. This selection process followed the principles of the PRISMA model - Preferred Reporting Items for Systematic Reviews and Meta-Analyses⁽¹³⁾, which is shown in figure 1.

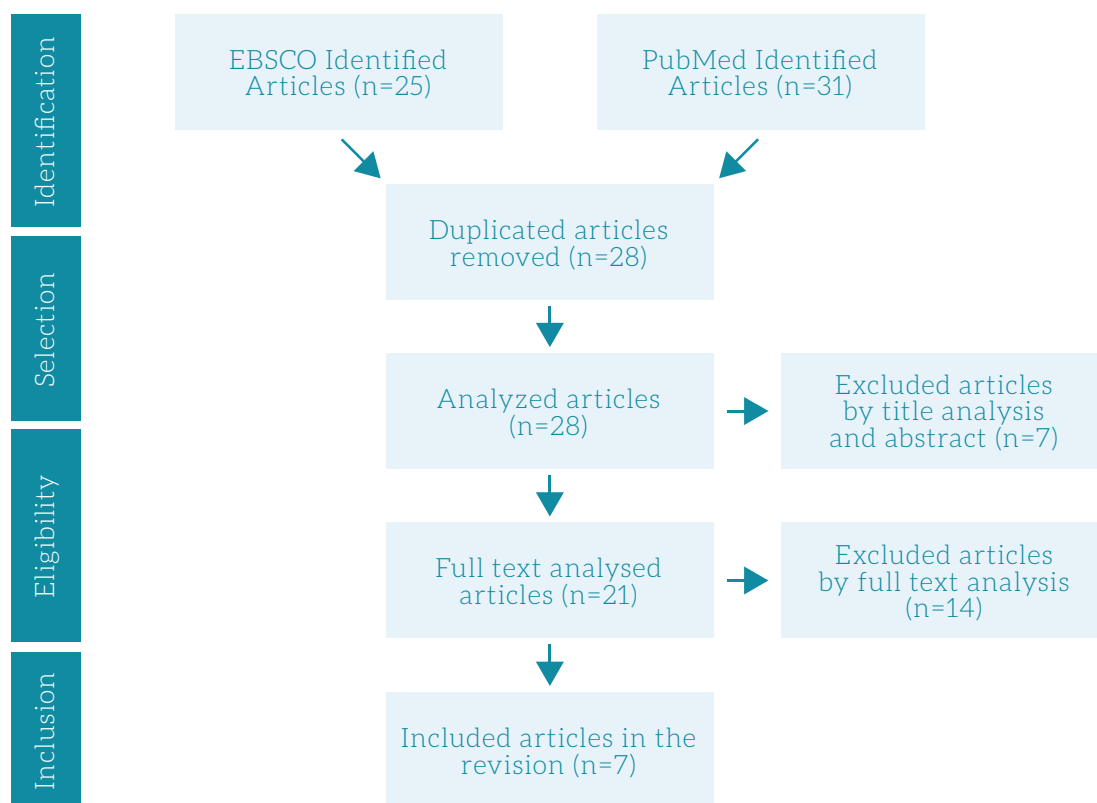


Figure 1 - Prisma flowchart.

The methodological quality of the studies was independently assessed by two reviewers using the critical evaluation tools of the Joanna Briggs Institute⁽¹⁴⁾.

The data systematization process was performed using a table, which includes the following aspects: study identification, country and date, study objective, study design, number and type of participants, outcomes, intervention or phenomenon of interest and main results (Table 1). The levels of evidence found in the studies, analyzed according to the Joanna Briggs Institute⁽¹⁴⁾, were all level 4.b. All the studies are of a quantitative nature, the majority of which are descriptive of case series^(6,9,15,16,17), and the rest are case-control studies⁽⁷⁾.

The analyzed studies were developed in three countries and are distributed as follows: USA (4 studies), United Kingdom (2 studies) and Canada (1 study).

All studies cover the pediatric population (0-18 years). Some have focused only on the family perspective^(16,18), others on the perspective of health workers in transport teams^(6,7) and three in both^(9,17,15), which allowed to achieve, in a certain way, a balanced view on the matter. Concerning the means of transport used, the vast majority of the observations were directed at ground transportation by ambulance^(7,18,16,17,15), only two articles focused on the two modalities: air transport and ground transportation^(6,9).

Finally, five studies directly examine the presence of family members during transportation^(6,7,16,17,18) while the remaining two^(9,15), focused on family-centered care, address this indirectly.

Table 1 – Summary table of data extracted after critical evaluation of the studies.

Title	Autours	Year	Country	Participants	Method
Parents As Passengers During Pediatric Transport	Lewis, M., Holditch-Davis, D. & Brussen, S.	1997	USA	310 teams	Survey
Objective	Describe the current policies and practices regarding the inclusion of parents as passengers during inter-hospital pediatric, air / ground transportation.				
Result	The advantages of having a parent as a passenger include emotional benefits for the child and the companion, the family member's willingness to provide data on the child's history and give his consent, good public relations, and have a family member present in the event that the child dies. Disadvantages include the potential presence of parental anxiety, distractions of team members, and limitations of space.				
Family-oriented care during pediatric inter-hospital transport	Macnab, A., Richards, J. & Green, G.	1999	Canada	100 family members 21 paramedics	Survey
Objective	Evaluate family-centered care and the type of counseling provided by the pediatric inter-hospital transport team.				
Result	The question of the presence of parents in the monitoring of the child was an area indicated by the paramedics as a requirement that the parents do and 36% indicated as an important factor in ideal conditions. Individually, some paramedics mentioned additional strategies, such as allowing the family access during stabilization procedures (62%), taking the family to accompany the child on the way to the ambulance, explaining the reasons for and destination of the transport, and help the family to be part of the process. Families consider it positive and ideal for the team to discuss and take into account the desire and possibility of a member accompanying the child during transportation.				
Should parents accompany pediatric interfacility ground ambulance transports? The parent's perspective	Woodward, G. & Fleegler, E..	2000	USA	189 family members	Survey
Objective	Evaluate whether parental involvement during pediatric inter-hospital transportation can be beneficial for children, families and transportation teams.				
Result	86% of parents felt that accompanying the child is important or very important to them. 65% felt that it is important or very important for the child to have the presence of the father during transportation. 90% of the parent group who accompanied their child felt relaxed or very quiet during transportation. Only 5% of the children who followed the child experienced anxiety or anxiety compared to 56% of the non-follow-up group. 86% of the accompanying group felt that their child was quiet or very quiet during transportation while 15% of the parents in the unaccompanied group felt that their children were quiet or very quiet without their parents' presence. 94% of the parents said that in the future they would choose to accompany their children to inter-hospital transport. Parents in both groups commented that they feel more comfortable and less anxious when they accompany their children. Some parents in the group who did not accompany their child expressed anxiety, disappointment, and anger at being excluded from the transportation process.				

Table 1 – Summary table of data extracted after critical evaluation of the studies.

Title	Autours	Year	Country	Participants	Method
Should parents accompany pediatric interfacility ground ambulance transports? Results of a national survey of pediatric transport team managers	Woodward, G. & Fleegler, E..	2001	USA	156 team leaders	Survey
Objective	Determine the existence of a national consensus on the presence of parents during pediatric transport.				
Result	25% of all respondents felt that one parent should be allowed to travel with their child, 29% felt that the parent should not accompany their child. 46% felt that parental support was sometimes appropriate. 31% thought that parental monitoring can provide psychological and parental help to children during transportation. 18% of the interviewees expressed or predicted possible problems with their parents' presence during transportation. These concerns included concern about the limited ambulance space; interference of parental anxiety in the team; limitations of parents to understand aspects of transportation. 51% felt that parents could benefit from follow-up, while 13% felt that parents did not benefit from traveling with the child. 39% felt that the presence of the parents was beneficial for the children while 21% felt that the child would not benefit from traveling with the parents.				
"The worst journey of our lives": parents' experiences of a specialised paediatric retrieval service	Colville, G., Orr, F. & Gracey, D.	2003	UK	500 family members	Survey
Objective	Describe the experiences of families who were involved in the inter-hospital transportation of their children by a specialized team.				
Result	The parents commented that their anguish came from being separated from their sick children, feeling a great instinctive need to be present to protect and comfort them. They said that their greatest fear is not being present in the event of death. In contrast to this fact, the parents who were allowed to be present during the transport with their children, felt extremely grateful. According to these parents the decision to be allowed to travel in the ambulance was based on the state of consciousness of their children. Parents who did not accompany their children had difficulty finding the destination hospital due, in most cases, to a lack of concentration in driving. Some parents reported that they were distressed when they realized they had arrived at the destination hospital before their child. For the parents it was greatly appreciated that the transport team showed them the child as soon as possible.				
Family-Centered Care in Pediatric Critical Care transport	Joyce, C., Libertin, R. & Bigham, M.	2015	USA	68 family members 80 professionals	Interviews Survey
Objective	Describe the family's presence and the perspective of the family / transportation team about family-centered care during transportation.				
Result	Of the parents who accompanied their children, 79% agreed they felt a reduction in anxiety levels. 26% of the family members who did not accompany the child, 51% felt separation anxiety or anxiety. Follow-up during transportation increased in 90% of parents, feelings of involvement in the process. The desire to have the vehicle of its own at the hospital of origin, the non-permission of the transport team based on meteorological / safety issues, the lack of demonstration of will, fear of flying, issues related to child care and commitments to employment are among the reasons that led parents not to want to accompany their children. 75% of paramedics agreed to the phrase "my job would be easier if a parent is never present in the transport".				

Table 1 - Summary table of data extracted after critical evaluation of the studies.

Title	Autours	Year	Country	Participants	Method
Should parents accompany critically ill children during inter-hospital transport?	Davies, J., Tibby, S. & Murdoch, I.	2017	UK	305 professionals 279 family members	Survey
Objective	To examine the impact of parental presence in pediatric inter-hospital follow-up.				
Result	Most of the transport team considered the presence of parents during transport of the child, with little or no stress (96% in period 1 and 98% in period 2) and found only small difficulties or no difficulties in the application of their interventions. Interestingly, the stress of the elements is tended to be influenced more by the presence of the parents than by the severity of the child's clinical condition or by the level of experience of the team. The occurrence of adverse events related to the parents was not associated with reports of difficulties during the interventions. With respect to the parents, a fact that was more emphasized was the decrease of the stress of the parents as a consequence of their presence in the accompaniment of the child, including a case where the father witnessed maneuvers of cardiorespiratory resuscitation to his son in the ambulance.				

DISCUSSION OF RESULTS

In the literature we find a growing concern with the issues of separation of parents and children in various contexts, more or less complex, namely in resuscitation rooms^(10,19,20). It has already been demonstrated in intensive care that the parental presence in the unit is the most effective family coping strategy⁽²¹⁾ and brings positive responses from medical teams⁽¹⁹⁾. Transferring this concept to the pediatric inter-hospital transport environment, it is plausible that the same strategy allows higher levels of satisfaction and benefits for the child, family and transportation team⁽¹⁸⁾.

Regarding the advantages for the child, we find that the most consensual element is the parents' ability to transmit calm, psychological help and emotional support to the child^(6,7). This capacity seems to potentiate the stabilization of the child's clinical condition⁽⁷⁾, including the reduction of the need for sedative or anxiolytic medications⁽⁶⁾. However, by analyzing the studies, there are a limited number of specific situations where these benefits are evident. Among these situations we mainly have diseases, which can be aggravated by the agitation and anxiety of the child, such as obstruction of the airway by epiglottitis and respiratory stress^(6,7). These situations can also be extended in cases of children suffering from trauma who have high pain levels⁽⁷⁾ and in cases where parental involvement is important as interpreters of the child⁽⁶⁾.

The views of transport team professionals appear to be divided as to the direct impact of parental presence on child health outcomes^(7,9). Some teams reported that the presence of parents is beneficial to children in theory but with limitations in practice⁽⁶⁾. One of the issues raised in this context was the presence of parents in the monitoring of unconscious children. In these situations, some teams reported that the presence of the parents is unnecessary⁽⁶⁾, the unconscious, sedated and curarized children do not benefit from the presence of the parents, unless the crew considers that the parents are part of the process⁽⁷⁾. In addition, the vast majority of children sleep during journeys, usually on a short-term basis⁽⁶⁾. In this regard, another study showed that several elements of the transport team reported that the presence of parents produces only a calming effect in non-ventilated children⁽¹⁷⁾.

If in the case of children the advantages are apparently very debatable and limited, the studies analyzed on the other hand seem to show that there are greater benefits for their parents. From a family perspective, it was evident that anxiety levels were substantially elevated in groups of parents who did not follow their children compared to the groups they followed^(9,16,18). From a professional perspective, 51% felt that parents

could benefit from this monitoring, while 13% felt that they would not benefit⁽⁷⁾ and acknowledged that the presence of parents in transportation is an area much requested by families, indicating it as an important factor to be taken into account under ideal conditions⁽¹⁵⁾. The parents' level of satisfaction with the transportation service, as well as the reduction of feelings of distress, seem to be related to their permission to be present during transportation^(16,17). Parents are grateful to be allowed non-abandonment of their children at times of great sense of protection and parental comfort, thus reducing their levels of anxiety^(9,16,15). Despite these benefits, some parents choose not to accompany their children, even when they are allowed by the shuttle. This absenteeism is related to means of transport/safety issues, professional appointments (jobs), weather conditions, the state of the child's conscience⁽¹⁶⁾ and the preference to have their personal vehicles at the hospital of destination^(9,18).

From the perspective of professionals, the non-parental permission of transport teams may be related to technical issues or to direct implications on the performance of team members. Limited space and safety issues within the transport vehicle are limitations pointed out by several studies^(6,9,16,18,15). If it is possible to overcome this limitation, the preferential location of the family member in the ambulance must be pre-established. Safety briefings⁽⁶⁾ should be considered and retention systems⁽⁷⁾ are mandatory.

Studies have shown that some parents may express anxiety, hostility and hysteria, interfering with child care^(6,18), and as such, parents who demonstrate this condition can not be safely included in the follow-up⁽¹⁸⁾. It has been proven that professional stress tends to be more associated with parental behavior and with adverse events than with disease severity⁽¹⁷⁾. These facts are in agreement with another publication where it is argued that the ideal of parental involvement during pediatric transport can not be overridden by the priority of stabilizing the child's clinical condition⁽²²⁾. The problems of space/safety, the team's anxiety to provide explanation and support to parents were defined as reasons that led to the non-permission to accompany the parents by ambulance⁽²³⁾.

Although the presence of parents has been considered a small obstacle to professionals⁽¹⁷⁾, over the years teams have shown greater permissiveness in having parents as companions⁽⁶⁾. Interestingly, the speculation that the presence of parents leads to incidents during transportation, and that has more disadvantages than advantages, has been refuted by some studies^(9,7,18,17). A small percentage (3.4%) of the incidents that arise during transport are directly related to the presence of the parents⁽¹⁷⁾, in another study, 35% of the teams that did not allow the presence of the parents, predicted potential problems, in the However, only 8% of the teams that allowed this presence reported such difficulties⁽⁷⁾. Given the rare events reported, apparent stressors, none or a small

percentage had any implication on the performance of interventions by doctors or nurses⁽¹⁷⁾.

There are occasional reports in some studies, where the presence of parents during transportation can bring some advantages to professionals. The environment during transport allows for greater rapprochement with the child and the family^(6,7,17). Professionals can use this presence to gather important data, which complements the child's medical history, obtain consents, establish good relationships and show that all possible interventions are being performed⁽⁶⁾. These findings are in agreement with previous studies^(24,25).

Even in studies where there were greater obstacles to the presence of parents, they considered the need to define alternative strategies to reduce parental anxiety, both before and after transfer⁽¹⁶⁾. Demonstration of willingness to involve parents in the transportation process is often the only strategy needed to build a good cooperative environment⁽⁷⁾. Some professionals gave examples of actions to take into account to help the family feel involved in the process, namely: allowing the family access during stabilization procedures, taking the family to accompany the child on the way to the ambulance and explaining the information on the reasons and destination of transport⁽¹⁵⁾.

Parental involvement in the transport process with its presence in the pediatric patient follow-up begins to emerge as a way of improving the quality of care in pediatric inter-hospital transport^(9,7). The CCFs appear at the heart of this question as a guideline^(7,18,9) and it is recommended that future training be provided in this area⁽¹⁵⁾.

Problems were identified in the analyzed studies that translate into limitations. Regarding the methodology used by the different studies analyzed, there are aspects that, in our opinion, may generate limitations to the reliability of the results obtained. In two of the studies analyzed^(18,16), questionnaires were carried out to families who had experienced the need for inter-hospital transportation of their children and the focus of the study was the analysis of a subjective perception, the use of recall strategies can condition distortion of information. In one study, the use of retrospective methodology has become a weakness because of its transverse nature⁽¹⁶⁾. Lastly, the use of small samples enabled the study of a group of people who may not have been representative of the area of interest^(18,16,9).

CONCLUSIONS

There is still no consensus on the best strategy to follow in this area, but it was possible to be aware that countries such as the United States and the United Kingdom are struggling to discuss this issue, seeking to know the perspective of the teams and families that go through this experience. In most cases, they express the need to be part of the process, pointing out their presence in transportation as a maximal exponent under ideal conditions. CCFs are described as the future approach to enable parents to become involved in transportation.

The shortage of literature, the time interval of research, and the low level of evidence of the studies analyzed are among the major limitations of this review. In spite of these limitations, it was possible to evaluate a set of advantages and disadvantages of parental presence during pediatric inter-hospital transport, which may serve in the future, as a guide for transport teams to consider allowing parental presence as companions.

The review confirms the need for further research on this issue, particularly in the Iberian Peninsula where there is a pediatric transport system duly organized by specialized teams⁽⁵⁾, which can bring great contributions. At the national level, there is a particular concern for the rights of the child and has led to a successful evolution in child and pediatric health care. It is therefore important to describe and analyze in Portugal the current policies and practices regarding the inclusion of parental presence in pediatric interhospital transport.

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