

Family-Centered Care in Pediatric Critical Care Transport

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Abstract

Objective: Family-centered care (FCC) in medicine highlights mutually beneficial partnerships among providers, patients, and families. In the field of specialty pediatric critical care transport (SPCCT), FCC includes family presence during transport. We sought to describe family presence and family/staff perspectives of FCC in transport.

Methods: This institutional review board–approved study established family presence rates among 5 SPCCT teams. At the top-performing family presence team, parents of transported children were interviewed. A staff survey measured perspectives on FCC using SurveyMonkey (Palo Alto, CA). Statistical tests including chi-square and Fisher exact tests for comparative data were applied using SPSSv17.0 software (SPSS Inc, Chicago, IL).

Results: The cohort-wide range of family presence was 23% to 66%. Parents were 4 times more likely to accompany their child if transported by ground versus air (ground: 26 [59%] vs. air: 6 [26%]). Sex, race, travel distance from referral hospital, and child's age did not influence the rate of family accompaniment. Most staff (76%) received education on FCC.

Conclusions: This study informs how transport factors and parent/staff perceptions influence parental presence on transport at a single center. Opportunities to optimize transport FCC include defining protocols for ground and air transport, establishing a more welcoming attitude toward parents, and designing an FCC educational module specific for transport staff.

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Family-centered care (FCC) is defined as the planning, delivery, and evaluation of health care that is grounded in mutually beneficial partnerships among health care providers, patients, and families.¹ FCC embraces 3 concepts: 1) providing care for a person not a condition; 2) understanding a patient in the context of family, culture, and goals; and 3) honoring that context will result in better care and patient satisfaction.^{1,2} The results of well-executed FCC include shared trust, respect, and collaboration between caregivers and family members.^{1,2} Examples in which FCC has influenced health care models include elimination of visitation hour restrictions in intensive care units, implementation of family-centered rounds at the patient's bedside, and family presence during procedures and resuscitations.^{1,3,4} Specific to pediatric care, parental presence as a means to facilitate FCC has been shown to alleviate patient/parent anxiety, reduce separation anxiety, and improve parental satisfaction and child cooperation with procedures.^{3,4}

The impact of FCC in the field of critical care transport is relevant to the nearly 200,000 infants and children in the United States who are transported each year for specialty neonatal or pediatric care unavailable at the referral hospital.⁵ Interfacility transports are commonly performed by specialty pediatric critical care transport (SPCCT) teams. There is variability among SPCCT programs regarding family presence on transport. Similar to FCC in other pediatric settings, a key measure of FCC in SPCCT is parental accompaniment during transport. Nationally, a majority of pediatric critical care transport teams (63%) permit parental accompaniment during ground transport.⁶ Lewis et al⁷ reported that a majority of transport staff (78%) perceived parental accompaniment as emotionally beneficial to the child.⁷ Woodward and Fleegler⁸ affirmed the positive transport experiences associated with parental accompaniment for both parent and child. To date, no published data exist describing the measured rate of parental accompaniment during transport nor do studies exist describing both staff and parent perspectives around FCC in a pediatric transport system.

Herein, we sought to describe the rates of parental accompaniment during transport across a regional cohort of SPCCT programs and gather data on family/staff perspectives of FCC in the program with the highest rate of parental accompaniment. The primary hypothesis was that a parent would feel welcome to accompany his or her child, and both teams and parents would perceive parental presence during transport as a positive experience. Additionally, we hypothesized that a mother would be more likely to accompany his or her child

on transport and that longer distances would influence a parent's decision to accompany his or her child on transport. Among staff factors that would influence parental accompaniment on transport, we hypothesized that team members who are parents themselves would be more supportive of parental accompaniment.

Methods

This study was an institutional review board–approved study that established the rates of family presence during transport among 5 regional SPCCT teams. At the top-performing family presence team, parents of children (0-18 years) transported by the SPCCT team in the months of June through August 2012 were consented and interviewed using an interview tool adapted from previously published FCC questionnaires.⁹⁻¹² The nonintervention study consisted of both retrospective and prospective approaches.

Initially, the rates of parental accompaniment during pediatric critical care transport from 5 regional hospitals (Hospital A-E) were obtained retrospectively over a 4-month study period (January 2012-May 2012). Data were gathered through the Ohio Neonatal/Pediatric Transport Quality Collaborative database and permitted identification of the top-performing program in the metric of family presence on transport.¹³ Neonatal patient transports were excluded for the family presence metric in the database. Institutional policies regarding family presence during transport were also obtained and analyzed for similarities, discrepancies, and overall policies and requirements.

The SPCCT teams at the study institution are comprised of 4 mobile intensive care units, 3 ground units, and 1 dedicated helicopter. The SPCCT team configuration is a 3-person medical crew including a transport nurse, transport respiratory therapist, and transport paramedic. The SPCCT teams at the study institution serve over 27 counties encompassing 12,000 square miles and perform 2,800 neonatal and pediatric transports annually.

Next, the study sought to focus prospectively on the parent's perspective on FCC during transport. Individual interviews of the parent of recently transported children were conducted at 1 of these 5 centers, Hospital B. The parents of children transported to Hospital B during the study period were interviewed in person within 48 hours of the transport process. One parent or guardian of a transported child was eligible to be interviewed if the child was admitted to the hospital, the parent could be located, and the parent consented to participate in the study. Participants excluded from the study were parents of transported neonates, parents of patients who were discharged either directly from the emergency department or before the interview date, and parents of children admitted to the inpatient psychiatry unit.

After consent was obtained, the parent interview was conducted by 1 of the investigators (RL) in the patient's room. The interview questions were adapted from Woodward and Fleeger's study and also included additional questions

reported in the literature that were deemed important by the investigative team and relevant to parent perceptions of FCC.^{6,8} Interview questions included the demographics of the parent, specifically age, sex, race, education, and residence. Additional data included the mode of transportation, the child's age, and the travel distance to the destination hospital. Other Likert-style interview questions were intended to elicit understanding of parents' feeling regarding their presence or absence on transport and the level of parental anxiety surrounding transport. Questions regarding the environment provided by the transport team staff members were also included in order to analyze the SPCCT team members' influence on a parent's decision of accompaniment.

Additionally, a 1-time staff survey was distributed to the SPCCT team being studied to evaluate the culture of family presence on transport. The staff survey was compiled from previously published questionnaires and surveys relevant to FCC in transport and nontransport settings.^{10,12} Staff survey questions included demographics factors such as sex, race, age, employment duration, family composition, and role on the transport team. Data from parental interviews were compiled in a custom database (Excel 2007; Microsoft, Redmond, WA). Staff survey data results were completed anonymously in SurveyMonkey (Palo Alto, CA). Appropriate statistical tests were applied including chi-square and Fisher exact tests for comparative data using SPSSv17.0 software (SPSS Inc, Chicago, IL).

Results

The average rate of family presence on transport across the 5 programs ranged from 23% to 66%. The highest rate at the study institution was 66% (Fig. 1). At the study institution, 68 parents were interviewed with 82% female respondents (n = 56). During the prospective study interview period, parental accompaniment rate was 48.5% at the study center. The demographics for the interviewed parents are reported in Table 1. Family members were 4 times more likely to accompany the child if transported by ground (26.59%) versus air (6.26%) (odds ratio = 4.09; 95% confidence interval, 1.35-12.39) (Table 2). Parental sex, race, age, travel distance from the referral hospital, location of primary residence, education level, or child's age did not influence the rate of family accompaniment (Table 2). Among parents accompanying their child on transport, 79% (n = 26) agreed or strongly agreed that they had reduced parental anxiety. Among family members who did not accompany their child during transport, 26% (n = 9) felt unwelcome by the transport team to accompany their child, and 51% (n = 18) agreed or strongly agreed that they had feelings of distress or anxiety because of their separation from their child. Additionally, accompaniment on transport increased feelings of involvement for over 90% (n = 30) of the parents who chose to travel with their child. Reasons parents chose not to accompany their child included desire to have their personal vehicle at the receiving hospital (n = 10), not permitted to

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