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Exploring trust development in families of children towards surgical and emergency care providers: A scoping review of the literature

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Abstract:

Background

Trust is central to the therapeutic relationship between patients and their providers, yet little is known about how it is developed in the unique context of children facing surgical emergencies. We sought to identify factors fostering trust development, gaps, and areas for improvement.

Methods

We searched eight databases from inception to June 2021 to identify studies focusing on trust in pediatric surgical and urgent care settings. PRISMA-ScR protocols were followed, and screening carried out by two independent reviewers. Data collection included study characteristics, outcomes, and results.

Results

Out of 5,578 articles screened, 12 fulfilled the inclusion criteria. Four major trust constructs were identified: competence, communication, dependability, and caring. Despite various instruments used, all studies reported a high level of parental trust. Nearly all studies (11/12) noted trust depending on parents' sociodemographic background, with ethnicity (3/12) and level of education and language barriers (2/12) limiting parents' confidence in physicians. High trust levels significantly correlated with effective communication and perceived quality of care. Most effective interventions enhancing trust included communication and caring trust constructs (10/12) rather than competence and dependability (5/12). Parents' individual experiences, development of compassionate interactions, and practice of family-centered care appeared important in developing trust.

Conclusions

Improving communication and providing compassionate care, as well as encouraging a patient-centered approach, appear to be most effective in promoting trust in pediatric surgical and urgent settings. Our findings can guide future educational interventions towards strengthening parental trust and promoting child- and family-centered care in pediatric surgical settings.

To whom it may concern:

On behalf of my colleagues, I am pleased to submit our manuscript entitled “Exploring trust development in families of children towards surgical and emergency care providers: A scoping review of the literature”, a societal manuscript that has been accepted for publication by the societal publications committee to be published in the CAPS Edition of the Journal of Pediatric Surgery.

This scoping review focuses on how trust is established between pediatric doctors and families of pediatric patients in both urgent and surgical care settings.

The results as presented in this manuscript have not been published in any other journal nor have they been submitted for publication to any other journal.

Sincerely,

Olivia Serhan, BSc, MD Candidate Université de Sherbrooke
Exploring trust development in families of children towards surgical and emergency care providers: A scoping review of the literature

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ABSTRACT

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Trust is central to the therapeutic relationship between patients and their providers, yet little is known about how it is developed in the unique context of children facing surgical emergencies. We sought to identify factors fostering trust development, gaps, and areas for improvement.

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Keywords: Trust; pediatric surgery; emergent care; child

Level of evidence: 1

Abbreviations

CASP: Critical Appraisal Skills Program

GBMMS: Group-Based Medical Mistrust Scale

HICCC: Honest, Inclusive, Compassionate, Clear and Comprehensive, and Coordinated

HCS: Human Connection Scale

ICU: Intensive Care Unit

NOQA: Newcastle-Ottawa Quality Assessment

OSF: Open Science Framework

PTS-HCP: Patient Trust-Scale-Health Care Professional

PEDEI-TIPS: Pediatric Trust in Physicians Scale

PRISMA-S: Preferred Reporting Items for Systematic Reviews and Meta-Analyses Search
PRISMA-ScR: Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Reviews

TIPS: Trust in Physicians Scale

INTRODUCTION

Trust is a central component of the relationship between patients and their physicians. In the context of the patient-physician relationship, trust can be defined as the patient’s acceptance of a vulnerable situation and, as a result, their confidence that the physician will care for them [1]. Moreover, trust is based on the patient’s perception of the physician’s competency, openness, and ability to communicate medical knowledge to the patient in plain language and to listen to the patient [2]. It has been hypothesized that trust affects a variety of patient behaviors and attitudes such as the patient’s willingness to seek medical care and reveal delicate information [1, 3]. There are multiple potential benefits to patient trust, which include increased satisfaction, adherence, and continuity of medical care [4-6]. Furthermore, trust in the patient-physician relationship can foster an overall positive psychological impact which can ultimately promote recovery and increase feelings of well-being [7].

Although current literature outlines how trust is formed in primary care settings, there remain gaps in the literature about how trust is established in pediatric emergency and surgical care settings [7]. Identifying determinants of trust is central to comprehending how trust is formed and preserved between the patient and physician. Previous studies have identified honesty, confidentiality, dependability, communication, competency, and fiduciary responsibility, fidelity, and agency as determinants of trust in the healthcare setting [7,8]. However, although one can argue that determinants such as communication and competency are important in any setting, the
emergent care setting imposes many limitations such as the inability to select a physician or a lack of time to establish a relationship, which affect the determinants of trust [7,8].

The purpose of this review is to understand what is currently known about how parents develop trust towards the surgical and emergency care providers of their children. By reviewing the information gathered from studies that explore parental trust and assess factors associated with trust, the following research questions emerged:

- What elements appear central to establishing a trusting relationship between parents and their child’s physicians in emergent care settings?
- What were the levels of trust measured in this population, and what factors were correlated with perceived trust of parents from diverse backgrounds?
- What builds or interferes with parents’ confidence in treatment and care provided in pediatric emergency settings?

METHODS

We conducted a scoping review of the published literature to look broadly at trust in pediatric surgery. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Scoping Reviews (PRISMA-ScR) guidelines and checklist for conducting scoping reviews was used. Additionally, a six-step scoping methodological framework using the Arksey and O’Malley’s method was also incorporated [9]. These steps were as follows: 1) identifying research questions and (2) relevant studies, (3) selecting studies and determining inclusion and exclusion criteria, (4) charting the data, (5) collating, summarizing, and reporting results. (6) consulting with stakeholders to inform or validate study findings. This project was registered on Open Science Framework (OSF).
Search Strategy

The search strategy was conducted by a senior medical librarian. Relevant studies were first searched in the following databases, from inception until June 23, 2021: Medline (Ovid), Embase (Ovid), CINAHL (Ebsco), Cochrane (Wiley), Global Health (Ovid), Web of Science (Clarivate Analytics), Africa Wide Information (Ebsco) and Global Index Medicus (WHO). The search strategy used variations in text words found in the title, abstract or keyword fields, and relevant subject headings to retrieve articles exploring trust between physicians and parents of pediatric surgery or emergency patients. Conference abstracts were excluded in Embase. Our full search strategy is outlined in the supplementary material. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses Search (PRISMA-S) extension was used for reporting and is included in the supplementary material.

Inclusion and exclusion criteria

Publications were included if they explored the parents’ trust in treatment and care provided to them in acute/critical care settings; if they assessed the trust, mistrust, or distrust in physicians and the association of trust to demographic variables; if they discussed the trust correlates from the perspective of parents and child patients, and if they explored the role of diverse factors in building/breaking trust between physicians, patients and the parents of pediatric surgery or emergency patients. Publications were excluded if they did not explicitly mention methods and strategies to achieve rigor in the study.

Study Selection

References found were imported into EndNote X9, where duplicates were removed and then imported into the online platform Rayyan was used to perform the screening. Two reviewers (OS and AM) independently carried out a first screening of all eligible titles and abstracts. In
instances of disagreement, a third reviewer (EG/DP) adjudicated. A full-text screening was then performed to determine acceptability into the final review based on inclusion/exclusion criteria. Following this step, investigators identified 12 articles that warranted a final review for data collection (Figure 1).

**Data Collection and Analysis**

During the final review, the following relevant information was compiled into a Google spreadsheet from each of the 12 included articles: author(s), year of publication, general characteristics of the study methods, outcomes, and key findings relating to the scoping review questions. Data was then organized and converted into a structured format for a thematic analysis [10] to detect patterns of common and different perceptions and experiences. Two reviewers assessed the risk of bias of each included study using the Critical Appraisal Skills Programme (CASP) checklist tool or the Newcastle-Ottawa Quality Assessment (NOQA) scale. The results of the assessment are presented in Table 2.

**Working definition for trust**

Based on the review of the existing definitions in the literature [11-14] and thematic analysis of the studies’ findings [10] the following working definition for trust was used in this study:

*Parents’ trust in physician's ability to treat their child’s medical condition and care for both the patient and their family requires having confidence in the physician's competency, dependability, communication, and caring.* This working definition enabled us to conduct a broader and more in-depth examination of various factors that may explain parents' perceptions of trust. Furthermore, it influenced our approach in terms of how we gathered, analyzed, and summarized information to achieve the goal of the current research study.
RESULTS

We retrieved 6214 articles from the 8 databases. Following the removal of 636 duplicates, 5578 studies remained to be screened. After our initial review, 57 articles were identified for full-text review and 12 studies were included in the final set following a second level screening (Figure 1).

Figure 1: PRISMA Flow diagram: Identification of eligible studies in scoping review

The general characteristics of the studies’ designs are summarized in Table 1. Most of the selected publications (n=10) were conducted in North American academic medical centers and university-affiliated clinics, and a majority were observational (n=7) and qualitative studies (n=5). Seventy-five percent of the publications were single-institution studies (n=9). Ten of the twelve papers had a small to moderate sample size of less than five-hundred participants with diverse demographic and clinical characteristics. The most represented specialty was Pediatric Emergency Medicine (n=5) and Pediatric Intensive Care (n=4) followed by Pediatric Cardiac Surgery (n=2) and Urology (n=1). Most studies focused on tertiary care, such as Level 3 Intensive Care Unit (ICU) and Level 1 Trauma care.

The majority of studies conducted face-to-face interviews (n=8), and administered qualitative (n=7) and quantitative questionnaires (n=8) to explore and quantify parents’ perceptions and experiences. Five studies employed the Pediatric Trust in Physicians Scale (PEDI-TIPS), two of them combining it with the Group-Based Medical Mistrust Scale (GBMMS). The other seven studies used the Human Connection Scale (HCS), the Trust in Physicians Scale (TIPS), the Patient Trust-Scale-Health Care Professional (PTS-HCP), or other unique questionnaires and surveys developed by the researchers of the studies (Figure 2). The majority of the studies (n=8)
employed statistical models to analyze trust scores and differences between group means, while some (n=5) explored deductive methods. Seven of twelve papers demonstrated a high level of reliability and validity in terms of their results' quality.

Table 1 - General characteristics of the final studies (n=12)

Figure 2 - Instruments used for measurement of Trust and Mistrust

Table 2: Newcastle-Ottawa Quality Assessment Scale (NOQA) and Critical Appraisal Skills Program Checklist (CASP)

This study explored the essential elements of trust in pediatric surgical and emergency care providers, the associations between trust and demographic variables, and the factors building/breaking trust.

Factors of Trust /Constructs of Trust

The following four constructs were found to correlate most closely to trust:

1. Competence Trust (n=4): Parents’ confidence in physician’s clinical expertise and skills to treat their children’s medical conditions.

2. Communication Trust (n=6): Parents’ confidence in a physician's ability to provide consistent information about intervention, treatment options, related risks, and potential complications.

3. Dependability Trust (n=2): Parents’ confidence in the physician's trustworthy intentions and reliability to fulfill his/her responsibilities in the patient’s best interest.

4. Caring Trust (n=10): Parents’ confidence in physician ability to comprehend family backgrounds and provide patient-centered care with respect, empathy, and compassion.

Competence Trust:
Parents will trust their child’s physician if they perceive that the physician is doing everything in their power to help their child [20]. They feel a sense of security and trust when the physician is highly competent in treating their child [21], which improves the parents’ experience [25]. In addition, many parents stated that their trust and confidence in the physician’s capability to attend to their child increased when they were included in the decision-making process [16]. On the other hand, competence trust levels were decreased when parents deemed that their child’s physician employed poor judgment regarding their child’s needs [20].

**Communication Trust:**

Communication was identified to be a fundamental aspect in establishing a trusting relationship between pediatric physicians and their patient’s families. Most parents want their child’s physician to communicate with them in an Honest, Inclusive, Compassionate, Clear and Comprehensive, and Coordinated (HICCC) manner [16]. Many parents emphasized that when physicians were compassionate and took their time to properly communicate, it allowed parents to trust that their child’s physician had a genuine interest in their child’s health and their family’s situation [16, 23]. In addition, parents’ trust increased when physicians were open and honest about the child’s clinical situation and treatment options [21]. Moreover, when physicians were open to receiving suggestions from their patients’ families and incorporating them into the medical course of action, parents experienced a higher level of trust in their child’s physician. However, when physicians disregarded and ignored voiced ideas or opinions, it hindered the establishment of a trusting relationship [20].

**Dependability Trust:**
Given the nature and complexity of the child's clinical needs in high-care settings, parents will trust that the physician will do what is in the patients’ best interests [21, 23]. Some studies also noted a positive association of trust with reliability, availability, and security [24, 25]. However, several papers noted that dependability trust can be undermined by perceived issues with racial and ethnic fairness [15-17, 19], and physician’s unmet expectations to effectively signal trustworthiness during clinical encounters [24, 26].

**Caring Trust:**

Most of the studies noted that developing compassionate interactions (based on empathy for the family’s situation, offering encouragement and support, etc.) and providing family-centered care were significantly correlated with the parents’ confidence in the physician’s caring and with parental satisfaction of the quality of services in pediatric healthcare settings [15-17, 19-25]. On the other hand, some articles specified that inaccurate comprehension of multicultural parents’ backgrounds and inadequate care of their specific needs and concerns were significant predictors of parental distrust or mistrust in caring, especially within racial and ethnic minorities [15-17].

**Figure 3: Physician attributes that can influence Trust**

**Effects of Demographics on Trust**

Nearly all studies noted that trust varied by parents’ sociodemographic and child’s health-related characteristics (Figure 4). Among the demographic factors associated with lower physician trust reported by parents from minority groups, three studies demonstrated high correlation with race and ethnicity [16, 17, 19], while two publications reported that no significant difference was seen in trust scores for these specific characteristics [15, 26]. Racial and ethnic barriers, such as beliefs and suspicions, fears of judgement and past experienced discrimination [15-17], along
with literacy/education and language barriers [15, 18] were identified as factors limiting parents’ confidence in physician competency and dependability [15, 16, 19], and significantly and negatively correlated with trust in communication and caring [15-17].

**Figure 4: Parent and Child Characteristics that can Influence Trust**

**DISCUSSION**

The invasive and potentially life-threatening nature of clinical care provided in Pediatric Emergency Department/Pediatric Intensive Care Unit requires an extraordinary level of trust from parents, and as a result, emergency providers have an obligation to elicit and enhance their patient trust.

Research has demonstrated that parental trust in emergency surgery is a construct with specific dimensions that can be reliably measured. Different measurement instruments can be used to assess trust and attributes that contributed to trust development, such as the Pediatric Trust in Physicians Scale (PEDI-TIPS) scale [15, 16, 18, 19, 23, 26] and the Group-Based Medical Mistrust Scale (GBMMS) [15, 16]. Aside from quantification, these tools can be used to investigate pediatric trust facilitators and medical mistrust barriers, as they provide important insights into how to improve pediatric trust in physicians in general, but also how to address specific suspicions and beliefs about group-based disparities in healthcare and a lack of support from healthcare providers [15-17, 21, 24].

The influence of parents’ sociodemographic on the formation of trust was a common theme that was present in most of the papers we reviewed. Patients from minority groups and with different
ethnic backgrounds than that of their child’s physician were less likely to trust their child's doctor [15, 17-19]. Whether it was due to a negative past medical experience, difficulty communicating with the healthcare team and receiving adequate information regarding their child's clinical case due to language barriers, or personal beliefs, the reason for this lack of trust is dependent on one's sociodemographic factors [15-17, 19]. Therefore, it is important that hospitals provide physicians with adequate resources such as translators and social workers in order for them to communicate and approach each family appropriately. Furthermore, it is imperative to recognize and acknowledge that perceived discrimination and past discriminatory medical experiences are a root cause of mistrust towards physicians [16, 17, 19]. Sensitizing physicians about patient discrimination and providing workshops on how to interact with patients from various sociodemographic and socioeconomic backgrounds to quickly establish a trusting relationship based on their values and concerns can thus greatly increase the levels of trust reported by patients from various demographic contexts.

A patient-centered approach can be valuable to building a trusting relationship between families and physicians. Patient-centered care can be instilled by addressing not only the patient’s needs, but also the needs of the patient’s family. Physicians should encourage patients’ families to participate in the patient’s care and value their opinions [20, 25]. The physician can foster an environment of trust and increase family perceived confidence in the physician by establishing a shared decision-making setting with the patients' families [16]. Furthermore, when caring for the needs of their patients and patients' families, it is critical that physicians remain empathetic and compassionate when communicating with the family to convey that they take them seriously and respect them [17, 21, 24].
In comparison with current studies on trust establishment with adult patients, there remains very little literature exploring trust in the pediatric emergent setting. However, throughout our review, we gathered factors that assist in the formation of trust between pediatric emergent care physicians and the families of their patients. An important aspect of trust is the determinants of trust. We found multiple studies discussing competency, communication, dependability and caring as four important factors parents cited to be vital in trusting their child’s physician. Most studies stressed the importance of communication in trust establishment. Adequate communication allowed parents to get a better understanding of their child’s case and were more inclined to ask questions and provide physicians with their opinions, favoring a two-way dialogue between the patient’s family and the doctor. Furthermore, parents reported that they valued HICCC communication [16]. To build a trusting relationship, physicians must adapt their communication to meet the values of their patients' families. In clinical practice, pediatric urgent care doctors should focus on the above-mentioned trust factors when speaking with their patients' families and caring for their patients to foster a trusting relationship and improve their patients' overall care.

**Limitations & Future Directions**

This study presents several limitations. First, due to a paucity of research on this subject in the literature, our review was limited to 12 included publications, the vast majority being single-institutional studies conducted in North America. Second, there was very limited literature on medical mistrust that measured and analyzed parents’ beliefs about group disparities in health care and lack of support from surgical and emergency care providers. Further exploration of these factors may be pertinent in establishing trustful relationships with parents with different
cultural backgrounds, as well as in restoring trust among racial and ethnic minorities. In addition, given that our inclusion criteria required papers to discuss trust in pediatric surgery or pediatric urgent care, it may impose a narrow focus that could have caused us to miss additional information that pertained to trust establishment in pediatric non-urgent care settings.

Despite these limitations, we are confident that this study has provided valuable information that can raise awareness among pediatric physicians about what they can focus on to demonstrate their trustworthiness. However, it is important to note that reinforcing their medical competence, communication, dependability, and caring is not always sufficient. Building trust also challenges a physician’s ability to recognize a parent’s distrust and address this mistrust when it arises. Future research should seek to understand the factors that affect parents’ trust in their child’s physician and their mistrust in the health care system. Understanding these factors could change the dynamic between physicians and parents, facilitate trust, and improve quality of care.

Conclusion

Overall, there are effective methods for increasing parents’ trust toward their child’s emergency care providers and addressing issues of trustworthiness. Improving communication and demonstrating caring, as well as interventions that encourage the practice of patient-centered care, are the most effective trust-building tools in pediatric emergency/critical care units. Understanding parents’ specific expectations, concerns, or sources of suspicions is essential for effective signaling of trustworthiness and addressing mistrust when it arises. More research is required to identify exhaustive evidence, measure, and monitor the impact of any intervention, and investigate the effects of a time-sensitive factor when treating pediatric-patients with the goal of promoting child health centered management in emergent pediatric care settings.
References


Figure Legends

Fig. 2. Instruments used for measurement of Trust and Mistrust:
Pediatric Trust in Physicians Scale [black]; Trust in Physicians Scale [blue]; Group-Based Medical Mistrust Scale [red]; Patient Trust Scale-Health Care Professional [grey]; Human Connection Scale [green]; Others [yellow].

Fig. 3. Physician attributes that can influence Trust:
Significantly and positively [green]; Significantly and negatively [red]; Not significantly [yellow]; Not available [grey].

Fig. 4. Parent and Child Characteristics that can Influence Trust:
Significantly [green]; Not significantly [yellow]; Not available [grey].
Figure 1 PRISMA Flow diagram.

Identification

Records identified from: Databases (n = 6214)

Records removed before screening: Duplicate records removed (n = 636)

Screening

Records screened (n = 5578)

Records excluded (n = 5521)

Reports sought for retrieval (n = 57)

Reports not retrieved (n = 0)

Reports assessed for eligibility (n = 57)

Reports excluded: Different population and context (n = 28)
No relevant data analysis (n = 17)

Included

Studies included in review (n = 12)
Instruments used for measurement of Trust and Mistrust

Number of Publications

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JOURNAL OF PEDIATRIC SURGERY (JPS)
Author Disclosure of Relevant Financial Relationships

NAME: Olivia Serhan

TITLE OF ARTICLE: Exploring trust development in families of children towards surgical and emergency care providers: A scoping review of the literature

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- Explain what you or your spouse/partner received (ex: salary, honorarium etc).
- Specify your role.

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We further confirm that the order of authors listed in the manuscript has been approved by all of us.

We take full responsibility for the work being reported. It is the original study and has been neither published elsewhere nor submitted for publication.

Olivia Serhan

On behalf of all authors
Journal of Pediatric Surgery

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Study conception and design: Dan Poenaru, Elena Guadagno, Olivia Serhan
Data acquisition: Olivia Serhan, Alexander Moise, Elena Guadagno
Analysis and data interpretation: Olivia Serhan, Alexander Moise
Drafting of the manuscript: Olivia Serhan, Alexander Moise
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