Pediatric Emergency Room Response to Community Pediatricians’ Expectations

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Abstract

Background: In Israel the pediatric emergency room functions as an urgent primary care clinic in addition to dealing with life-threatening situations. Due to health insurance stipulations, most patients come to the PER with a referral from the community clinic. The relationship between the referring physician’s expectations and the subsequent management of the referred patient in the PER is not well defined.

Objectives: To evaluate the relationship between the expectations of the primary care physician and the management of referred patients in the PER, assess the type of information provided by the referring physician, and examine the effect of additional information obtained from the referring physician on patient management in the PER.

Methods: We reviewed the records of patients presenting at the PER with referrals from primary care physicians as well as additional information obtained by telephone interviews with the referring physicians.

Results: The expectations of the referring physicians were not fully documented in the referral form. The PER responded to the patient as if the PER was the initial contact. There was no significant difference in the response of PER physicians with or without additional information from the referring physicians.

Conclusions: The PER acts as an independent unit with no obligation to satisfy the expectations of the referring physicians. The relationship between the PER and the referring physicians needs to be clarified. Guidelines and structured PER referral forms should be implemented in all primary care clinics to improve patient management and communication between health providers.

The role of the pediatric emergency room is viewed differently by patients, hospital staff and community health workers. The term “emergency room” implies that its major function is to provide immediate help to patients with acute conditions. In fact, the PER deals with a variety of additional conditions [1–3]. The Hebrew term for “emergency room” translates as “triage room,” implying a function of deciding who should be admitted to the hospital, treated in the PER, or referred to other services [1].

Review of the literature of the past 10 years reveals that very few studies have dealt with community referrals to the PER. In the United States, most patients come to the PER without prior contact with the primary care pediatricians [4,5]. The majority of studies conducted in the USA focused on the utilization of the PER as a walk-in clinic and the impact of changes in community services on PER utilization [4–8]. A 1991 study in Italy [9] identified family custom, inappropriate relationships with the practitioner, and dependence on the hospital as the three main causes for PER non-emergency consultation.

Every Israeli citizen is insured under the National Health Insurance Law and is entitled to choose from one of four major health plans (sick funds). Primary care is provided in community health plan clinics, while specialist and tertiary care are provided at government, health plan or private medical centers. Clinics are open 6 days a week, about 7 hours a day. The emergency room is used by the primary care physician as a resource for immediate care, consultations, treatments, and urgent workup services not available in the community at a specific time. The system encourages the community physician to act as a gatekeeper; in other words the patient should be in prior contact with a health plan physician before going to the emergency room. Since patients who come to the emergency room without a referral (not an obvious emergency) have to pay a substantial fee for the emergency room services whereas patients with a referral do not, most children presenting at the PER during clinic hours come with a referral [10].

The relationship between the referring physician’s expectations for management of the patient in the PER and the subsequent care of the referred patient in the PER is not well defined. This area needs to be clarified to ensure better communication, mutual accountability, and continuous comprehensive health care. The purpose of this study was to evaluate the relationship between the expectations of the referring primary care physician and patient management in the PER. The study examined the
reasons for referral, the type of information provided by the referring physician, the expectations of the referring physician, and the extent to which the PER fulfilled these expectations. In addition, the study evaluated the effect of additional information obtained from the referring physician on patient management in the PER. The management of individual cases was not evaluated.

Methods
This study was undertaken at the Soroka Medical Center in Beer Sheva, the major city in the Negev region of Israel, an area of about 11,000 km² [11]. The Center serves a population of approximately 140,000 children from Jewish and Bedouin communities and is the only facility that provides pediatric emergency services in the Negev [11]. Approximately 100 children arrive at the Soroka Medical Center PER daily, and about 20% of these visits result in hospitalization [10].

This prospective study investigated referrals from the community clinics to the Soroka Medical Center PER. Two students from the Department of Healthcare Management at Ben-Gurion University contacted the referring physician by telephone after the referred child had registered at the PER but before examination by a PER physician. Selection of cases was subject to the work schedule of the students (65 days from January to June 1997) and successful telephone contact with the referring physician. The student explained the project to the referring physician, asked a specific set of questions concerning the referral, and recorded the responses on a specially designed telephone form. A valid case was defined as a case where telephone contact was made with the referring physician and the telephone form was completed (Group 1). The telephone form was attached to the referral form issued by the referring physician in randomly selected cases according to the identity number of the child. The child was examined by the PER physician who received both the referral and the telephone forms (Group 2), or just the referral form (Group 3). Each case was evaluated and scored by a senior pediatrician who reviewed the referral, telephone and PER discharge forms. Information recorded on the telephone form was included only if not documented in the respective referral form.

Results
The patients were divided into three groups. Group 1 comprised 249 valid cases (completed referral and telephone forms). Due to coding problems only 187 cases of the 249 valid cases from Group 1 were included in Groups 2 and 3. Group 2 comprised 93 cases within Group 1 where the PER physician received the referral form and the telephone form and was therefore aware of the additional information obtained from telephone contact with the referring physician. Group 3 consisted of 94 cases within Group 1 where the PER physician received only the referral form and was therefore not aware of additional information from telephone contact with the referring physician.

Information regarding problem description, physical examination, diagnosis, and reason for referral to the PER was recorded on at least 80% of the referral forms [Table 1], but only 37% provided information on the patient’s history. The physician’s handwriting was very difficult to read in 30% of the referral forms.

The main reasons for referring a patient to the PER are described in Table 2. In 79% of all valid cases (Group 1), the category of a life-threatening/serious condition was indicated by the community physician as a reason for referral to the PER. The second most common reason (10% of the cases) was the immediate need for a test or imaging procedure not available in the clinic. Parental pressure was listed in about 5% of the cases (n = 13) as the reason for referring the child to the PER, and in 4 of the cases this was the only reason listed.

The source of most of the information regarding the reason for referral (65%), and the expectation for tests (83%), imaging (85%), procedures (59%) and consultations (86%) was obtained via telephone contact [Figure 1]. While the telephone contact served to collect additional information and to further define the needs of the patient, it was not always successful, and parental pressure was listed in about 5% of the cases as the reason for referring the child to the PER. In 4 of the cases the reason listed was the only reason.

Table 1. Number and percent* of PER referral forms containing specified information

<table>
<thead>
<tr>
<th>Type of information</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient history</td>
<td>91</td>
<td>37</td>
</tr>
<tr>
<td>Problem description</td>
<td>231</td>
<td>93</td>
</tr>
<tr>
<td>Physical examination</td>
<td>198</td>
<td>81</td>
</tr>
<tr>
<td>Test results</td>
<td>115</td>
<td>47</td>
</tr>
<tr>
<td>Diagnosis/problem</td>
<td>201</td>
<td>84</td>
</tr>
<tr>
<td>Reason for referral</td>
<td>199</td>
<td>80</td>
</tr>
</tbody>
</table>

* percent = n/249 referral forms

Table 2. Main reasons for referring a patient to the PER as documented in referral and telephone forms*

<table>
<thead>
<tr>
<th>Reason</th>
<th>Referral form</th>
<th>Telephone form**</th>
<th>Total No.</th>
<th>% of cases (n=249)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life-threatening or serious condition</td>
<td>62</td>
<td>134</td>
<td>196</td>
<td>79%</td>
</tr>
<tr>
<td>Same day tests/imaging</td>
<td>19</td>
<td>6</td>
<td>25</td>
<td>10%</td>
</tr>
<tr>
<td>Past history</td>
<td>2</td>
<td>18</td>
<td>20</td>
<td>8%</td>
</tr>
<tr>
<td>Technical reasons</td>
<td>4</td>
<td>10</td>
<td>14</td>
<td>6%</td>
</tr>
<tr>
<td>Equipment not available in clinic</td>
<td>7</td>
<td>6</td>
<td>13</td>
<td>5%</td>
</tr>
<tr>
<td>Parental pressure</td>
<td>8</td>
<td>5</td>
<td>13</td>
<td>5%</td>
</tr>
<tr>
<td>Medical follow-up/unavailable in clinic</td>
<td>3</td>
<td>7</td>
<td>10</td>
<td>4%</td>
</tr>
<tr>
<td>Psychosocial</td>
<td>1</td>
<td>9</td>
<td>10</td>
<td>4%</td>
</tr>
</tbody>
</table>

* Can be more than one reason for referral listed on referral and/or telephone form.
** Reasons recorded from telephone contact and not documented in the referral form.
referring physician, awareness of the additional information had no significant effect on the response of the PER as reflected in patient management [Figure 2]. The percent of cases in which none of the tests or imaging procedures expected were actually performed in the PER was not effected by the additional information. Similarly, the additional information had no effect on the percent of cases in which all expected tests and imaging procedures were done.

**Discussion**

The study found that 79% of the referrals to the PER listed the category of a potential life-threatening or a serious condition as one of the reasons for sending a child to the PER [Table 2]. However, the study showed that the PER was also considered a readily accessible venue for immediate consultations, imaging, laboratory tests, and observation of the patient. The PER was also considered a place to refer highly concerned patients/parents. It is interesting to note that physicians were willing to admit that parental pressure was the reason for sending the child to the PER. We conclude that the need to refer a patient to the PER is dependent on the perceived urgency of services that a child requires.

A community pediatrician is basically on his or her own when dealing with patients. Within the usual 10 minute allocated encounter time, the pediatrician has to clarify several issues regarding patient management: Is the patient’s problem clearly defined? Can the problem be managed safely in a community setting? Is there a concern or need that should be optimally answered on the same day? The answers to these questions can lead to the decision to refer a patient to the PER. This referral is a declaration that the pediatrician has defined a need that should be addressed by the PER. In our opinion, the role of the PER is to be aware of and address these needs. However, as shown in Figure 2, the PER staff did not relate to the documented needs of the referring physician. Additional and more specific information collected from the telephone contact also had no effect on PER response to the referring physician. The PER treated the patient as if this was the initial contact and regarded its role as attending to the needs generated by in-house interpretations unrelated to external requests.

As the system operates today, the PER staff is not obligated to respond to the needs defined by the referring physician. We advocate that communicating these expectations is important to the integrity of services in the health care system. Documentation of expectations in the referral form is an action that demands a high level of clinical competence. Moreover, it is essential since the referring pediatrician is familiar with both the patient’s history and the availability of community supportive health services. The referral form should serve as a vehicle of communication between the referring physician and the PER. However, the current form does not successfully fulfill this role. As described in this study, the expectations of the referring physician are not completely documented in the referral form nor is the form standardized [Table 1]. As illustrated in Figure 1, the telephone contact showed that much relevant information was not documented in the present free text structure of the referral form. To improve communication between the two facilities, we recommend the use of a standardized referral form with the following categories: medical history and background, history of current problem/chief complaint, physical examination, results of procedures performed in the clinic, definition of problem/diagnosis, reason for referral and expectation from the PER, and information on how to contact the referring physician.

The results of our study did not support the idea that more detailed information concerning the expectations of the referring pediatrician influences PER management. We conclude that there is a perception gap between the community physician and the PER physician regarding their mutual roles. Further evaluation of the relationship between community health care and emergency services in Israel is recommended. However, this can have an influence only if both sides agree on the nature of the problems and share a common view on a resolution scheme. We suggest the development of PER referral guidelines that are agreed upon by the community and
tertiary health care providers. Implementation of these referral guidelines can improve patient management, PER utilization, and communication between health care providers.

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References
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Capsule

**Scrapie polymorphism**

For the past decade, geneticists have begun to unravel why some sheep are more vulnerable than others to scrapie. They found different variations, or polymorphisms, in the gene code for PrP, the prion protein. This correlation raises the possibility that genetically susceptible sheep could be bred out of the population, leaving only scrapie-resistant animals.

Studies of sheep experimentally infected with scrapie have shown that three codons, or positions, in the PrP gene codons 136, 154, and 171, are critical for determining whether the animal will come down with the disease. Each codon gets translated into one of the 256 amino acids of the sheep PrP protein. Individuals most vulnerable to scrapie have the amino acids valine, arginine, and glutamine at the respective positions dictated by the three codons. Using the single-letter code for amino acids, this polymorphism is referred to as VRQ. At the other extreme, sheep with the polymorphism alanine-arginine-arginine (ARR) are the most resistant. Indeed, out of hundreds of scrapie-infected sheep tested worldwide, only one, in Japan, has turned out to be ARR.

Three other polymorphisms apparently lead to intermediate levels of vulnerability to the disease. Muddling this neat picture, however, are some bizarre differences in the effect of polymorphisms in different sheep breeds. For example, Suffolk sheep with the genotype ARQ are susceptible to scrapie, whereas ARQ Cheviot sheep are resistant. More clear, however, is why PrP polymorphisms correlate with scrapie susceptibility in the first place. Findings reported in 1997 showed that the VRQ version of normal PrP protein is easily converted into the prion form when mixed with other prions in the test tube. The ARR polymorphism, on the other hand, strongly resists this conversion, while polymorphisms corresponding to intermediate scrapie susceptibility fall in between.

This biochemical confirmation of the importance of PrP polymorphisms has bolstered the view that breeding VRQ and other susceptible genotypes out of the sheep population might be the best course toward eradication.