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Title:

Exploring parents' reasons for attending the emergency department for children with minor illnesses: A mixed methods systematic review.

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ABSTRACT

Background: The number of Emergency Departments (EDs) visit is on the increase, and the pressure on EDs is of significant concern worldwide. The usage of EDs by parents of children with minor illness is an important and still unresolved problem causing a burden to healthcare services. The aim of this study was to review the literature to summarise parental reasons for visiting ED for children with minor illness.

Method: Seven electronic databases (Medline, Embase, PsycINFO, CINAHL, PubMed, Web of Science, and Scopus) were comprehensively searched during a 2-week period in August 2016 and updated between 11th and 20th of June 2018. The study selection process was undertaken independently by two authors. Qualitative and quantitative studies that focused on the reasons for parents of children with minor illness to attend an ED were included. Studies were assessed for quality and data were analysed by means of narrative synthesis.

Results: Twenty-four studies were included. Eleven studies employed quantitative methods, eleven studies used qualitative methods, and two studies used mixed methods. Parental reasons for using ED included perceived urgency, ED advantages (e.g. faster service, superior ED resources and efficiency), difficulties with getting a GP appointment, lack of facilities in primary healthcare services, lack of health insurance, reassurance, convenience and access.

Conclusion: This review identified some of the reasons why parents bring their children to the ED for minor illnesses highlighting the multi-faceted nature of this problem. Understanding parental reasons behind their choice to use the ED may help us better design targeted interventions to reduce unnecessary ED visits and alleviate the burden on overstretched healthcare services. This review may help inform emergency care policy makers, researchers and healthcare staff to understand parents' reasons for visiting the ED, to better meet their healthcare needs.

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BACKGROUND

The number of Emergency Departments (EDs) visit is on the increase, and the pressure on EDs is of significant concern worldwide [1]. The usage of EDs by patients with minor illness is an important and still unresolved problem, which places significant burden on healthcare services [2], increases waiting times in the ED [3], and is of significant concern to ED staff, ED directors and policymakers [4].

Prior studies suggest that many parents bring children with minor illnesses to the ED when they could be managed in primary care through their own General Practitioner (GP) other primary care provider [5-7]. The term 'minor illness' was operationally used by Butun and Hemingway [8] as non-urgent cases that could be treated by simple medication, self-care or need no treatment. Recent figures on paediatric ED visits suggest around 40% (n=1,244) were non-urgent in a study conducted across 12 hospitals in Belgium [9]. Just over half (53%) of ED visits were categorised as least urgent in Australia [10], while in the United States (US) between 37% and 60% of 25 million paediatric attendances were considered as non-urgent visits per annum [11, 12]. Data for England show an increase of 32% in all ED attendance in the past 10 years [13], with visits for non-urgent conditions estimated at 40% [14].

Given the demands placed on overstretched ED resources, it is important to understand why parents bring their children with minor illness to the ED instead of primary healthcare. To date, there are no mixed methods systematic reviews that brings together all the available data in this important field. A limited number of systematic reviews (n=3) were identified, which focused on adult patients [15], ED visits solely in the US [16], or reviewed only qualitative evidence [8]. Our review specifically focuses on parental reasons for using the ED for their children presenting with minor illness and brings together both quantitative and qualitative data without limitations of date and origin. This review sought to address the question as to why parents bring children with minor illnesses to the ED.

METHOD

A mixed methods systematic review was undertaken, which applied specific inclusion/exclusion criteria to the identified papers. PRISMA guidelines on the reporting of systematic reviews were adhered to throughout [17]. We sought to include evidence from any type of empirical research design in order to cover sufficient breadth of the available literature, to increase the validity of our findings and increase their applicability to policy and practice [18].

Inclusion and exclusion criteria

Studies that focused on the reasons for parents of children with minor illness to attend an ED were included. 'Parents' for this review refers to any parental guardian of a child aged under eighteen years, with no consideration of the individual's gender or age. No restrictions were placed on study design or publication date. Studies published in the English or Turkish languages were considered due to existing familiarity within the research team.

Search strategy

The search strategy included a list of relevant keywords and terms, including common abbreviations and alternative spellings (e.g. British and American). Seven electronic databases (Medline, Embase, PsycINFO, CINAHL, PubMed, Web of Science, and Scopus) were comprehensively searched in August 2016 and further updated between the 11th and 20th of June 2018. The keywords included (parent* OR carer* OR caregiv* OR family*) **AND** (child OR children OR baby OR babies OR infant* OR adoles* OR teen* OR p?ediatric*) **AND** (minor illness OR non-urgent OR non-emergency OR non-critical OR non-essential OR non-serious) **AND** ((emergency ADJ (department OR service OR hospital OR centre OR center OR accident OR ward OR unit) OR (accident and emergency)).

Two authors (AB and ML) independently performed and agreed on the study selection. The searches yielded a total of 585 studies which included 137 duplicates. Following duplicate removal and title review, 304 studies were excluded. Abstract review of the remaining 144 studies excluded a further 89 manuscripts. Full-text screening, employing the prespecified inclusion/exclusion criteria, was applied to 55 studies which resulted in 33 further exclusions, leaving a final total 22 included studies. Updating the search strategy in June 2018 resulted in the inclusion of two additional studies. Therefore, a total of 24 studies were included in this review. A PRISMA flow diagram of the study selection process is presented in Figure 1.

Quality assessment and data extraction

Quality assessment and data extraction of the included studies was conducted by AB with ML checking for accuracy; consensus was reached via discussion. The quality of all qualitative studies was assessed using an appraisal checklist developed by the National Institute for Health and Care Excellence [19]. The quality of quantitative studies was assessed using the National Institute of Health quality assessment tool [20]. Each tool contains 14 criteria that focus on the research question, objectives, method, population, data, discussion and limitations. All included studies were classified as having good, fair or poor methodological quality based on quality assessment tools. A data extraction tool was employed to consistently extract data from 24 included studies. This tool aided in summarising key features of the studies including setting, design, participants, method of data collection and findings.

Data analysis

Due to the heterogeneity of included studies, a narrative synthesis was deemed as the most appropriate way to analyse the data. Narrative synthesis is an approach which focuses on textual data to summarise and explain findings from a systematic review which has included studies employing diverse methods, populations and measurements

[21]. Heterogeneity in narrative synthesis is explored through comparison of study characteristics [21] and is described in table 1 and below.

RESULTS

Overview of included studies

Twenty-four studies published between 1988 and 2017 were included in the review. All included studies were reported in English; no Turkish research was located. Eleven studies employed quantitative methods of cross-sectional designs [5, 6, 9, 12, 22-28], eleven studies used qualitative methods which included observational, ethnography and grounded theory designs [4, 29-38], and two studies used mixed methods using cross-sectional designs [39, 40]. Data collection instruments across all studies were either interviews or questionnaires. Each included study had a different data collection instrument. Fourteen studies were conducted in the US, 3 in Canada, 2 in the United Kingdom (UK), 2 in Australia, 1 in Belgium, 1 in Singapore and 1 in Lithuania. Sample sizes ranged from 12 [31] to 3117 [9] participants with an overall total of 7561. Eight included studies collected data following triage while participants were waiting to be seen by a doctor [5, 24, 25, 27, 29, 30, 38, 39]. Eight studies collected data from participants who triaged as non-urgent, but there was no further information regarding whether this occurred before or after ED visits [12, 22, 23, 28, 31, 33, 34, 37]. The data of three studies were collected after participant's visited the ED [26, 32, 35]. Five included studies did not provide any information about when the data were collected [4, 6, 9, 36, 40]. Further characteristics of the included studies are presented in Table 1.

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Table 1. The characteristics of the Included Studies

Author, Year and Country	**Design & Methods**	**Setting & Participants**	**Main Findings**	**Quality Assessment**
Berry *et al*., (2008). **US**	Qualitative Study - Ethnographic Audiotaped ethnographic interviews	ED 31 parents interviewed	Long appointment wait with GP Dissatisfaction with GP Communication problems with primary healthcare staff Referral by GP Efficiency Availability of resources in ED Convenience Quality of care in ED ED expertise with children	Good
Kua *et al*., (2016). **Singapore**	A qualitative study that utilised a grounded theory approach.	ED 49 caregivers.	Perceived severity of child's symptoms Availability of after-hours care Advantages of ED (i.e. facilities) Mistrust GP Insurance coverage	Good
Brousseau *et al*., (2011). **US**	Qualitative In-depth interview	ED 26 parents of children and 20 primary care physicians	Reassurance Lack of specific tests and treatments in primary healthcare services Access issues	Good
Fieldston *et al*., (2012). **US**	Qualitative Focus group	ED Guardian (parents or grandparents) focus group (n:25) Health professional focus group (n:42)	Perceived medical need Accessibility Availability	Good
Stanley *et al*. (2007). **US**	Qualitative (Multisite, prospective observational study used semi-structured interview).	13 EDs 422 parents of children aged 6 months to 18 years.	Reassurance Perceived urgency Referral by GP No GP appointment available	Good

	Semi-structured, face-to-face interview			
Guttman *et al*., (2003). **US**	Qualitative study guided by a grounded theory approach.	2 EDs convenience sample of 408 (331 paediatric, 77 adult users)	Relief from pain Reassurance Parents do not want to take sole responsibility Recourse, second opinion, and referral Financial issues Worrisome condition After office-hours services Facilities and staff in ED Shorter wait in ED	Good
Grigg *et al*., (2013). **US**	A qualitative study Focus group	Seattle Children's Hospital in Seattle, Washington. 20 participants.	Concern about symptoms Delay resulted in serious illness Long clinic wait times	Good
Chin *et al*., (2006). **US**	Qualitative study design Semi-structured interview	Paediatric ED 12 Parents aged 25 to 47 years	Referrals to the ED Complexities of poverty and competing priorities Mistrust ED staff expertise	Fair
Woolfenden *et al*., (2000). **Australia**	Qualitative Semi-structured, In-depth interview	Paediatric ED in Western Sydney. 25 parents of children with non-urgent illness.	Parental triage Expertise in ED Access issues Parental expectations	Fair
Burokiene *et al*., (2017) **Lithuania**	Quantitative Questionnaire	Tertiary-level teaching Children's Hospital in Vilnius. A total of 381 patients' parents	Perceived urgent care need Worsened child's health Worrying symptoms Low parental health literacy	Fair
May *et al*., (2017) **US**	Qualitative Semi-structured interviews	2 sites including 1 community health clinic and 1 paediatric ED 50 participants in total (20 participant from Clinic and 30 from ED)	Health literacy Reassurance Perceived urgency ED advantages including quicker than others, better and timely care. Convenience	Fair

Soliday and Hoeksel (2001) **US**	Mixed methods Questionnaire with open ended item (Family Health Questionnaire)	Southwest Washington Medical Center. 388 parents of children aged 0-17. 141 of 388 parents responded to the open-ended item.	Physician office was closed No GP/physician appointments available Referral issues Access issues Financial issues	Fair
Williams *et al*., (2009). **Australia**	Cross-sectional survey Canadian survey tool developed and used by Truman and Reutter.	Paediatric ED in Brisbane, Australia. 355 parents of children with non-urgent illness.	Perceived urgency Advice sought Positive experiences in ED	Fair
Hendry *et al*., (2005). **UK**	Cross-sectional design Prospective questionnaire based survey	A&E Department, Royal Hospital for Sick Children, Edinburgh (RHSCE) 465 parents or legal guardian	Child's problem more appropriate for ED GP would have referred child to the ED anyway Child will be seen more quickly in ED	Fair
Phelps *et al*., (2000). **US**	Cross-sectional survey Survey (Piloted in the ED of one of the hospitals of the study)	Two urban hospital EDs in a large Midwestern city. 200 caretakers who brought their children aged under 16.	The doctor's office was closed Thought required immediate care Referred to the ED ED is closer	Fair
Benahmed *et al*., (2012). **Belgium**	Cross-sectional design Self-administered questionnaires which pre-tested during 1 week in two hospitals.	ED of 12 Belgian hospitals All patients (n: 3117) aged under 15. The self-administrated questionnaire was completed by the caregivers.	Self-referred without any prior contact with caregiver Referred by a Medical Doctor Sent by school or child day-care centre	Fair
Smith and McNamara (1988) **US**	Cross-sectional survey Questionnaire (not specified)	Brockton Hospital. 150 parents of children 15 years of age or younger.	Child too sick to wait for office visit Unable to reach local provider No transportation Waiting time shorter in ED Insurance coverage for ED but not for office visit	Fair
Brown *et al*. (2001). **Canada**	Qualitative study Structured interview	ED 158 parents of patients aged 0-7 years.	Perceived an emergency health problem Convenient time or location Referral issues	Fair

			Regular doctor was not available	
Salami *et al*., (2012). **US**	Cross-sectional survey Self-administered questionnaires which were pre-tested.	City hospital in South Bronx, New York. 53 caregivers, 44 primary care providers, 34 ED staff	Lack of health insurance Outside GP working hours Availability of diagnostic tests in ED Difficulty in PCP appointment Need for reassurance Less waiting time in ED Better hospitality in ED	Fair
Ogilvie *et al*., (2016). **UK**	Cross-sectional design Use-of-Paediatric-Emergency-Department Questionnaire The questionnaire was piloted in the emergency department prior to use.	ED in South West England. All English-speaking parents/caregivers whose children attended the emergency department and were triaged as minor injury/illness. 373 responses were analysed.	Sought advice Perceived to be more serious Perceived appropriateness of destination	Fair
Truman and Reutter (2002). **Canada**	Mixed methods. Employed a 53-item questionnaire containing closed and open-ended questions. Cross-sectional design.	One hospital in a large Western Canadian city (The city is not specified). 114 parents.	Perceived urgency Previous experiences Sought advice Referral	Fair
Kubicek *et al*., (2012). **US**	A descriptive study CASI (computer-assisted, self-interviewing) survey administered in either English or Spanish.	Children's Hospital Los Angeles (CHLA). 106 caregivers.	I think my child will get care here Doctors here are better Always open I have been here before	Poor
Smith *et al*., (2015). **Canada**	A cross-sectional survey. Survey (Supplemental Digital Content: http://links.lww.com/PEC/A87).	British Columbia Children's Hospital (BCCH) Paediatric ED 340 families.	Negative experiences in GP Geographic proximity Didn't know child could be seen elsewhere Wait time felt to be shorter at ED Easy access to ED	Poor
Doobinin *et al*., (2003). **US**	Cross-sectional survey.	Urban children's hospital in the US.	Convenience Perceived true emergency Lack of other access to a physician	Poor

	Survey. The study tool consisted of a 31-question survey developed by the investigators that underwent significant pretesting and revision.	Guardians of children. 251 surveys were completed.		

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Quality assessment

The quality of included studies were judged as good, fair or poor based on two quality appraisal tools. Seven studies were assessed as having good quality [4, 29, 30, 32, 34-36], 14 studies were considered as having fair quality [5, 6, 9, 22-24, 26, 28, 31, 33, 37-40] and 3 studies were assessed as having poor quality [12, 25, 27]. The results of the quality assessment are presented in Table 1. Studies which received a high quality appraisal score provided information about the research question, aim and objectives, design, participants, settings, time-frame and ethical issues. Studies that were assessed as possessing lower quality failed to explain how data collection carried out, the role of the researcher, sample size calculation and the potential role of confounding variables. No studies were excluded based on quality assessment in an attempt to provide sufficient breadth of data from diverse sources.

Strengths and weaknesses of the included studies

The majority of studies used a single setting for data collection [4, 5, 12, 22-29, 31-33, 35-37, 39, 40] which may limit the generalisability of their findings. In contrast, some studies used multiple settings which increased robustness of study design [6, 9, 30, 34, 38]. Four qualitative studies stated that data saturation was reached [29, 32, 33, 35], while some utilised triangulation to further substantiate findings [30, 33]. Such approaches are commonly employed to increase the robustness of qualitative data. Using convenience sampling [4, 9, 12, 22, 23, 25, 30, 34, 35, 39] limited the representativeness of study findings. Without fail, data were obtained from populations in high-income countries, suggesting that the needs and preferences of parents from middle and low-income countries are unknown.

Perceived urgency

Perceived urgency was the most frequently cited reason for visiting the ED by parents of children presenting with minor illnesses. This issue was identified in 17 of the included studies [4-6, 9, 23-25, 27, 28, 30, 33-35, 37-40]. Some parents felt that their child's

condition constituted a genuine emergency before their ED attendance [34]. According to a study by Phelps *et al.* [6], conducted in the US, 35% (n=70) of caregivers in their sample of 200 felt that their child was very sick and needed to receive immediate care. Parents considered that it was more appropriate to immediately attend the ED [5, 24, 40] for fear that their child's symptoms might become more serious with delay [4, 25, 27, 39]. Parents were most concerned by fever and felt anxious if they perceived the fever to be high [33, 35]. In addition, some parents did not feel confident about managing the illness at home or going to primary healthcare providers, if they perceived the child's condition as urgent [9, 35, 37]. Additionally, some parents felt that there was nothing further they could do at home and, therefore, preferred to visit an ED.

ED advantages

The perceived advantages of ED use were reported in 17 studies [4-6, 12, 22, 25-30, 33, 35, 36, 38-40]. These included ED staff expertise with children, faster service, quality of care, opening hours, previously positive experiences in the ED, better ED resources and efficiency. Parents believed that ED staff were more skilled in caring for children than their GP or primary care provider [12, 29, 30, 33, 35, 36]. In some cases parents preferred to entirely bypass their GP in favour of the perceived expertise of the ED staff [33]. Also, many parents reported choosing the ED due to shorter waiting times [4-6, 22, 26, 27, 30, 33]. The availability of superior resources in ED were cited by a number of studies as influencing parents' reasons for attending [4, 5, 22, 29, 30, 32, 36, 39]. Truman and Reutter [39] found that parents felt ED staff possessed both the knowledge and equipment to treat their child. Salami *et al*. [22] also found that the ED was chosen because of the perceived availability of diagnostic tests. The quality of care delivered in the ED also impacted on parents' decision regarding their usage [4, 6, 12, 22, 29, 36, 38-40].

Problems with primary healthcare services

Fourteen studies reported perceived deficiencies with primary healthcare services, which affected parents' decision to attend the ED [4, 5, 9, 22, 23, 26, 27, 29-31, 34, 35, 37, 40]. These included difficulties with obtaining an appointment, dissatisfaction with their GP, lack of confidence in their GP, mistrust of primary healthcare services, and non-registration with a GP practice. Problems in relation to the nature of primary healthcare services included specific working hours and lack of facilities. A large number of participants (n=104, 43%) in Hendry *et al*.'s [5] study, conducted in the US, visited the ED based on parents' previous experiences of being referred by their GP. These problems with primary healthcare services affected parents' use of ED for minor illnesses.

Convenience and access

In 15 included studies convenience and access were frequently reported reasons in parents' decisions to attend the ED [4-6, 9, 22, 25-27, 29, 31, 33, 37, 39, 40]. Some parents found ED services more convenient due to childcare arrangements [5] and preferred the immediacy of not needing an appointment [29]. Parents also tended to use the ED due to its accessibility and its proximity to their home [4, 6, 9, 26, 27, 33, 37, 39, 40].

Out of Hours

Parents reported using the ED for minor illnesses due to a lack of out of hours service provision by primary healthcare providers [5, 6, 9, 12, 22, 25, 26, 30, 35, 37, 39, 40]. One study found that 21 participants (28%) chose to attend an ED as the paediatrician's office was closed during the day [39] and 40 participants (28.4%) in a second study reported using the ED following work, when their primary healthcare provider was closed [40]. Some parents stated that their doctor's office was closed and the ED was the only available service for care [6]. The demands of work mean that parents cannot always

alter their work schedule, and therefore a visit to the ED after working hours is the only available option [30, 35].

GP referral

Several studies found that parents were referred to the ED for minor illness by their GP [6, 23, 24, 26, 27, 29, 30, 34, 37, 40]. Twenty-one percent (n=41) of participants in Phelps *et al's*. [6] study, and around 59% (n=177) of those in Smith *et al's*. [27] research visited the ED because they were referred. Whether this is a precautionary action, or the GP lacks capacity, such referrals place unnecessary demands on already stretched ED resources.

Lack of health insurance

Lack of health insurance, inadequate insurance coverage or financial issues were cited as reasons for attending the ED in 7 included studies, 5 of which were conducted in the US, 1 in Australia and 1 in Singapore [12, 22, 23, 26, 30, 35, 40]. Lack of health insurance meant that many parents had little choice in visiting the ED to seek help for their child [22, 30]. The nature of cover provided by the health insurance policy was cited as a reason for some participants attending the ED. For example, 12 participants (17.4%) in Smith and McNamara's [26] study reported that their insurance provided cover for ED but not for visits to their GP.

The need for reassurance

The need for parents to be reassured over their child's illness was another reason for visiting the ED [4, 22, 24, 28, 30, 32, 34, 38]. Parents preferred not to take sole responsibility for their children's illnesses; they preferred to visit the ED to ensure the illness was nothing to worry about. Parents expressed their need for reassurance because of their children's inability to explain the effects of their conditions [30]. The need for reassurance that their children were safe from harm was a primary determinant

in parents' decision making [32]. This need appeared to be increased among parents of newborns and first-time parents [4].

Gaining a second opinion

Some parents had availed of a prior medical opinion before attending the ED but desired a second opinion on their child's condition [5]. A parent in Guttman *et al*'s. [30] study reported feeling afraid that she was not giving her child the right medication. Therefore, this participant came to the ED to gain a second opinion and a better explanation of the medication. Soliday and Hoeksel [40] report that some parents were not satisfied with their primary care physician's recommendation and so preferred to visit the ED for their child's care. In addition, some parents visited the ED following advice from trusted individuals in their social network [28]. Table 2 shows parents' reasons for visiting the ED and the number of included studies which reported these.

Table 2. Frequency count of parents' reasons for attending the ED.

Parental Reasons	**Number of included studies**
Perceived urgency	17
ED advantages	17
Convenience and access	15
Problems with primary healthcare services	14
Out of hours	12
GP referral	10
The need for reassurance	8
Lack of health insurance	7
Gaining a second opinion	4

DISCUSSION

This review sought to identify why parents bring their children with minor illness to the ED. Our findings highlighted that parents' reasons for using the ED included the perceived urgency of their child's condition, advantages of the ED (e.g. better resources, faster service and ED staff expertise with children), problems with primary healthcare services

(e.g. the inability to receive a timely GP and mistrust), convenience and access issues, out of hours, referrals by GP, financial issues, reassurance and desire for a second opinion. The majority of included studies were assessed as having high methodological quality.

Parents' perception of the urgency of their child's condition was one of the most cited reason for using the ED. Clearly, parents worry about their child's health and seek care as soon as possible, rather than waiting at home or for the next available appointment with their primary care physician. Parents appear to see the ED as the most appropriate place to seek care during this worrying time. It is difficult to change the behaviour of parents who perceive their child's condition as urgent due to the emotionally charged nature of such situations and a possible lack of experience or knowledge of the child's condition. The importance of perceived urgency has been highlighted an issue in another study, particularly with first-time parents, who may lack experience in dealing with a sick child [10]. Providing parents with knowledge about what constitutes urgent and non-urgent care for common childhood diseases would aid parents' decision making in attending the ED [29, 37]. It has been recommended that increasing the insight and knowledge of parents in the appropriate use of healthcare services could improve the quality of care in ED, decrease inappropriate usage and reduce costs [9]. Additionally, greater health literacy, or the provision of feedback on usage, could dissuade attendance. May et al. [38] claims that parents' low health literacy is associated with worry and lack of knowledge about their child's health which results in an inability to provide self-care and a tendency to use the ED as a readily available source of care. Therefore, increasing parental health literacy may help parents to better assess their child's condition and subsequently provide opportunities for self-care or the use of alternative healthcare providers.

Several studies highlighted that parents used ED due to its perceived advantages. Some parents perceived ED doctors as more skilled than GPs or they believed their child would receive better care at the ED [29]. The provision of better care was highlighted in

another study as a reason for attending ED by 47% of their sample [41]. In addition, some parents argued that ED staff possessed greater expertise in working with children [29, 30]. Visiting the ED may be considered as a rational choice for parents who perceive ED staff to be more skilled than their primary care physicians, seek reassurance concerning their child's condition and perceive their child's condition as urgent. Findings also showed that parents used the ED due to its resources and availability of diagnostic tests. This may be based on the perception that the ED possesses greater resources and access to a wider variety of specialisms and equipment. A study by Keizer and Guell [42] reported that past positive experiences and quality of care in the ED affect people's decision to use the ED.

Restricted opening hours, lack of appointments and availability of GP services, dissatisfaction with their GP or mistrust of primary care provider were shown to affect parents' decision to use the ED. These reasons were cited in the majority of included studies and show that some parents are not satisfied with the services provided by their GPs and therefore visit the ED for care. A recent review by Butun and Hemingway [8] suggested that if parents are dissatisfied with their primary care provider or with received treatment, it is more likely that they will not revisit these services. These findings are further supported by previous researchers who cite frustration from patients who must contend with long waiting lists, poor communication and restricted opening hours when attempting to gain an appointment with their primary healthcare provider [41]. As a result, Weber [3] argued that using the ED may be a rational decision for those who have unmet health care needs. Therefore, it would be beneficial that primary healthcare services might want to focus on how to meet with patient's need and ultimately increase the level of patient's satisfaction. The provision of greater access to primary healthcare services, greater efficiency, better communication skills, and improved appointment scheduling may help decrease non-urgent ED visits. There is also need for greater provision of resources and triage of patients within primary care to divert parents from

attending the ED. Where available, out of hours services could be better used to reduce non-urgent cases.

The findings of this review note the importance of access issues and convenience in ED usage. Access issues, such as transportation and distance of healthcare services to home, led parents to use the ED. The findings of convenience and access issues are supported by previous researchers who showed that valued the access and convenience of attending the ED [41]. As a result the close geographical distance of the ED may have an impact on parental decision to use the ED [43]. Some parents found the ED more convenient because of working hours [4, 5, 37] and because they did not require an appointment [29]. The demands of work mean that many parents are unable to change their working schedules or take time off work, and therefore the after-hours service of the ED is a more convenient way to meet their healthcare needs. The problem of parents not wanting to take time off work to seek care and accessing alternative after-hours services is evident in the literature [44]. Patients have expressed a desire to be seen by their primary healthcare provider suggesting that if such services were made more accessible there would be a corresponding decrease in ED attendance [10, 45]. Some parents thought that their ED visit could have been avoided if their GP practice held more flexible opening hours when they initially sought care [45]. It would appear that if alternative services were available to parents non-urgent visits to ED could be prevented [46]. Such a reduction could conceivably be accomplished by extending the opening hours of primary healthcare providers and improvement in after-hours services.

Strengths and limitations

One of the strengths of this review is the comprehensive search strategy employed which utilised seven electronic databases and the independent application of inclusion/exclusion criteria, standardised data extraction and quality appraisal by two authors. However, we did not undertake an exploration of the grey literature and it is possible that we have omitted some relevant papers.

All included studies in this review were carried out in wealthy, well-resourced countries (US, UK, Canada, Australia, Belgium, Singapore & Lithuania). It is likely that, while many of the issues will remain the same for developing countries, some will be unique given the variability in cultural, economic and political contexts. The categories created through our narrative analysis are therefore limited by the available literature derived from high-income countries. By limiting our searches to the English and Turkish languages we may have inadvertently excluded important sources of additional information. In addition, many of the included studies failed to define the term non-urgent [4-6, 12, 22, 25, 27, 31, 33, 36-38, 40]. The lack of clear definition raises doubts as to whether these studies were measuring the same concept and creates difficulties when making comparisons between studies.

Future research

The characteristics of different healthcare systems might affect decisions to attend ED for minor illnesses. Therefore, it is advisable to compare and contrast a range of different systems to capture such inherent variability. As all included studies were conducted in high-income countries, it is suggested that there is a need for further investigation among middle-income and low-income countries which may provide important and unique insights. In addition, Stockwell *et al*. [47] argued that parents' reasons for using the ED with their children, rather than the GP, have changed significantly between 1997 and 2006. According to Stockwell *et al*. [47] families living in the US were less likely to visit ED for reasons of perceived urgency (21.7% vs 62.5%) in 2006 compared with 1997; however, they were more likely to visit ED due to limited access to their primary healthcare services (43.5% vs 20.3%). In the current climate of continuing change within the healthcare systems, it is important to conduct research about parental reasons for using the ED on an ongoing basis to meet with parents' needs.

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CONCLUSION

The reasons for parents visiting ED with their children for non-urgent conditions are complex and multifaceted. This review identified some of the difficulties within healthcare systems which resulted in parents using the ED to access care for their children. Therefore, addressing problems of parental mistrust of primary healthcare services, poor communication skills, restricted opening times and difficulties with GP appointments is important to change patterns of behaviour. By understanding parental reasons for using the ED, primary healthcare providers could better design and target interventions to increase levels of satisfaction and therefore divert parents from the ED. Greater health literacy and support for parents are needed if we are to reduce the increasing burden placed on global healthcare services. This review may inform policy makers who seek to reduce ED visits by understanding parental reasons for using the ED and their health needs to design interventions for this multi-faceted issue. Future interventions could be designed to impact parents' decision making prior to ED attendance.

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