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Pediatric Ice Pop Administration to Improve Patient Experience Scores

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Abstract

Objective: To assess the impact on patient experience scores of giving an ice pop (Popsicle, Good Humor-Breyers, Oakland, CA) to patients in a pediatric emergency department (ED).

Patients and Methods: A prospective two-center trial was conducted at a tertiary academic pediatric ED and a community ED from January 1, 2018, through March 31, 2018. The intervention arm gave an ice pop to all eligible patients 0 to 14 years of age on even-numbered days versus conventional practice on odd-numbered days. Press Ganey top box scores were then compared.

Results: Of 4574 pediatric (0 to 14 years of age) patient visits, patient experience surveys were delivered to 1346 families (29.4%) and 152 were returned (11.3%). Eighty-four surveys were returned for even-numbered day visits and 68 for odd-numbered day visits. There was a significant increase in patient experience scores associated with ice pop administration days for questions that asked about doctor's concern for comfort 70.2% versus 57.4% (P=.05), doctor's courtesy 76.2% versus 61.8% (P=.04), and doctor taking time to listen 72.6% versus 57.4% (P=.03).

Conclusion: A low-cost intervention resulted in significantly increased patient experience scores in select domains. Popsicle administration was a simple intervention which was easily instituted in both academic and community ED settings. Further study should explore the durability of the effect.

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The emergency department (ED) is often the first point of contact between the public and the health care system. It is critical that this interaction facilitate hospitality, compassion, and trust to integrate as many members of society onto the track of health and wellness as possible. This expectation of patient experience is also tied to improved health care quality and patient outcomes and to a reduced risk of malpractice litigation.[1] The patient experience literature addresses both qualities or aspects of care that impact satisfaction/experience and instituting interventions that affect it.[2] Interventions that affect patient experience can be further classified as direct and indirect according to the means through which they impact patient care or communication.

Some characteristics of care that have been identified to impact patient experience include communication, privacy, staff medical competence, pain control, comfort, empathy, perceived wait times, and noise.[3] Interventions have been used in hospitals as well as EDs to address these issues. In the hospital setting, Wang et al[4] has shown in an orthopedic spine population that setting goals and showing an educational video to patients increased patient experience scores regarding how often a nurse explains information in simplified terms (72% vs 58% top box scores, P=.03), and whether staff explained why a medicine was prescribed (81% vs 64% top box scores, P=.03). Harper et al[5] assessed whether therapy dogs affected patient experience after total joint replacement and found an increase in patient experience scores regarding nursing communication (92% vs 69% top box scores, P=.04), pain management (94% vs 72% top box scores, P=.02), and overall hospital rating (9.6% vs 8.6% top box scores, P<.001). Siddiqui et al[6] found that moving hospital patients to a new clinical building increased patient experience scores regarding friendliness/courtesy of

the nurses (82.8% vs 76.3% top box scores, P=.04) and overall rating of care given (83.0% vs 76.8% top box scores, P=.03).

In the ED, interventions to improve patient experience have focused on the interventional domains of process redesign, information delivery, interaction with providers, and wait time perception.[7] These domains have been addressed in various studies which have included showing standardized videos, giving brochures explaining how the ED works, and providing a business card with physician information upon introduction to improve information delivery.[8-10] Other studies have attempted to improve the domains of information delivery and interaction with providers by providing foreign language classes and customer service training.[11,12] Instituting chest pain and asthma observation units have also been found to increase patient experience through the process redesign domain.[13,14]

To improve the patient satisfaction domain of "interaction with providers," most studies have focused on interventions to directly improve provider interpersonal skills. Interpersonal interactions with ED providers have been found to be the strongest predictor of patient experience in many studies.[7] Our study is unique in assessing an indirect intervention, which is independent of clinicians' personal characteristics, to improve provider interpersonal skills. Most currently available patient satisfaction studies are retrospective, use costly interventions, have poor quality study methods, and have limited application within health care systems.[7] Here we propose a methodologically sound study of an intervention to significantly increase patient satisfaction that costs less than $1, with methods that can be implemented across diverse practice settings. In our review of the literature, we have not found any studies that use an intervention that indirectly facilitates the doctor-patient relationship through means of perceived courtesy, comfort, and listening. Here, we prospectively investigate whether offering ice pops affects pediatric patient experience scores in an academic and a community ED.

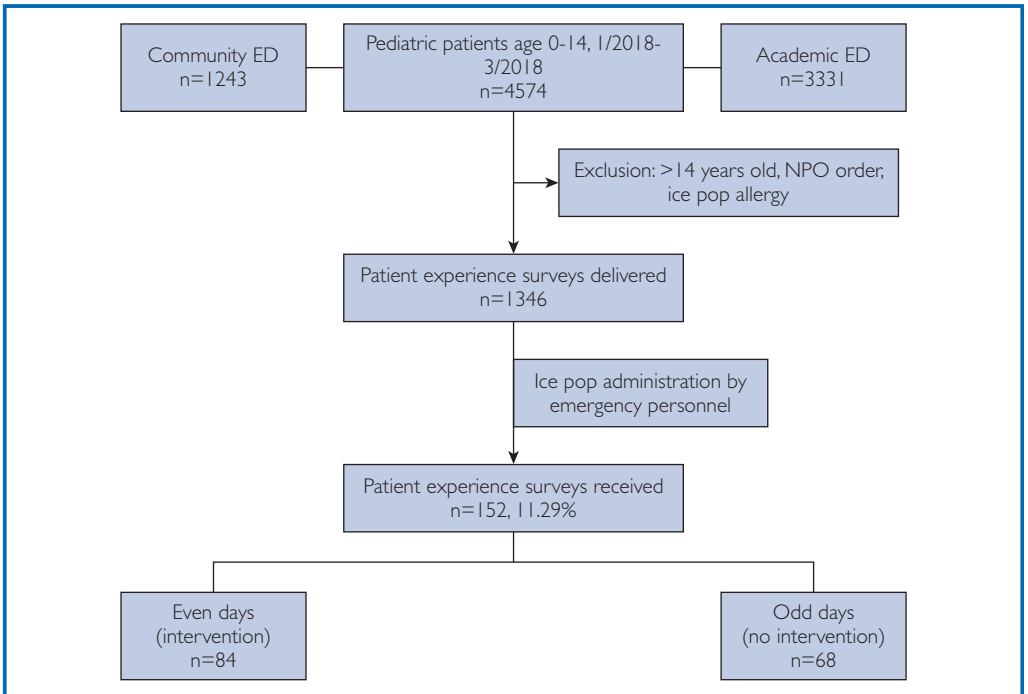

FIGURE 1. Ice pop study design. Of 4574 pediatric patients, 1346 surveys were delivered and 152 were received. ED = emergency department; NPO = nothing by mouth.

METHODS

Study Design and Setting

This was an interventional prospective trial conducted at a tertiary academic pediatric ED (14,000 pediatric patients/year) and a mid-sized community ED (4300 pediatric patients/year) from January 1, 2018, to March 31, 2018. The study was exempt by the Institutional Review Board because it was part of a quality improvement project and included only completely de-identified data.

Population

The subjects included pediatric patients aged 0 to 14 years presenting to one of the two EDs without contraindication for an ice pop. Those who were excluded were patients with a nothing by mouth (NPO) order or an ice pop allergy or intolerance. Patients who were tube-feed dependent, with a tracheostomy, or undergoing surgical evaluation were also excluded. Additionally, patients were excluded based on provider discretion.

Intervention

On even-numbered days, all eligible pediatric patients were offered an ice pop by nurses, physicians, or ancillary staff; on odd-numbered days, providers followed normal practice. Normal practice did not preclude giving an ice pop or other item for comfort, but it was not performed systematically. Before the study period, an email was sent out to all staff explaining methodology with instructions not to change clinical care. During the study, calendars were posted in clinical areas as reminders. Throughout this intervention, we altered the normal process by increasing the number of ice pops delivered on one day versus the other (Figure 1).

Outcomes

Approximately 2 days after the visit, Press Ganey surveys were sent to 29.4% of parents. Before implementing the study, we identified six questions based on author opinion that might be most reflective of provider interaction: (1) Overall quality of care, (2) Likelihood of recommending, (3) Being informative about treatment, (4) Perceived doctor's concern for comfort, (5) Doctor's courtesy, and (6) Doctor taking time to listen. Top box scores (5 on a 1 to 5 scale) were compared between even-numbered and odd-numbered days.

Statistical Analyses

Age was approximately normally distributed and summarized with means and SDs; top box scores were summarized with frequency counts and percentages. Comparisons of age and top box scores between odd-numbered and even-numbered days were evaluated using two-sample Student t and χ^2 tests for binary variables.

RESULTS

Within the 3-month period, a total of 4574 pediatric patients (0-14 years of age) were seen in the ED. There were 3331 pediatric patients seen in the academic ED, and 1243 pediatric patients seen in the community ED.

There were a total of 1346 patient experience surveys delivered (29.4%) and 152 surveys returned during this period, with a response rate of 11.3%. Of the surveys returned, 84 were on even-numbered (ice pop) days with an average age of 7.0±6.1 years, whereas 68 were returned on odd-numbered (routine practice) days with an average age of 7.6±5.9 years. These data are presented in Figure 1.

There was no significant difference in patient age and sex between the two sites on even-numbered versus odd-numbered days. Overall, there was a significant increase in patient experience scores on ice pop administration days for questions that asked about doctor's concern for comfort 70.2% vs 57.4% (P=.05), doctor's courtesy 76.2% vs 61.8% (P=.04), and the doctor taking time to listen 72.6% vs 57.4% (P=.03). There was a non-statistically significant increase for all other questions: overall rating of care 64.3% vs 58.8% (P=.64), likelihood of recommending 65.5% vs 57.4% (P=.37), or informed of treatment 71.4% vs 60.3% (P=.07). These results are detailed in Table 1 and Figure 2.

DISCUSSION

This prospective trial sought to assess how giving an ice pop to pediatric patients would affect patient experience scores completed by parents. Our intent was to look at this question in a way that would be generalizable to other EDs using a commonly used patient

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TABLE 1. Demographic and Patient Experience Results

Feature	Even-numbered days n = 84	Odd-numbered days n = 68	*P* value
Age in years (n = 149), mean ± SD	7.0 ± 6.1	7.6 ± 5.9	.54
Site			
Community	10 (11.9)	14 (20.6)	.14
Academic	74 (88.1)	54 (79.4)	
Female sex	44 (52.4)	32 (47.1)	.51
Overall care	54 (64.3)	40 (58.8)	.640
Likelihood of recommending	55 (65.5)	39 (57.4)	.370
Informative about treatment	60 (71.4)	41 (60.3)	.073
Doctor's courtesy[a]	64 (76.2)	42 (61.8)	.040
Doctor's concern for comfort[a]	59 (70.2)	39 (57.4)	.047
Taking time to listen[a]	61 (72.6)	39 (57.4)	.028

[a]*P*<.05.
Values are n (%) unless otherwise stated.

experience survey. We found an association between the intervention and improved parent perception of a doctor's courtesy, concern for comfort, and listening skills.

There has been a shift in quality improvement literature from measuring and addressing patient satisfaction to measuring and addressing patient experience, as satisfaction relies on expectations, whereas experience involves much more than the mere satisfaction with the visit. Patient experience, once considered merely a reflection of physician altruism, is now a scrutinized component of health quality. Since 2013, with the Affordable Care Act, Centers for Medicare and Medicaid Services (CMS) have embraced value-based purchasing to allot health care resources at the end of each year to reward high-performing hospitals and penalize low-performing hospitals. How well a hospital performs makes them subject to either a 2% incentive or penalty for Medicare reimbursement. One-quarter of this fund is determined by patient- and caregiver-centered experience and care coordination.[15] Furthermore, the potential reimbursement consequences of patient experiences far outweigh the marginal investment of ice pops.

Since 2006, CMS has used Hospital Consumer Assessment of Healthcare Providers and Systems Survey (HCAHPS) to assess patient experience for inpatient medicine. CMS is currently developing an ED survey called the Emergency Department Patient Experiences with Care survey, which may determine emergency provider reimbursement in the future. In the meantime, many hospitals use patient experience surveys similar to HCAHPS for internal tracking of outpatient services. Our hospital system has chosen Press Ganey for this purpose. In our study, we had a response rate of 11.3%, which is comparable to our ED's all-ages response rate of 15.6%.

Comparing our results to other patient experience literature is difficult because criterion variables of patient satisfaction and experience vary considerably in how psychometrically sound these tools are. Many studies have not assessed indirect (independent of care and communication) interventions to facilitate the doctor-patient relationship. Notably, one study did assess the indirect intervention of having a television in the patient's room; however, it was not associated with improved patient satisfaction.[16] Perhaps this can be explained because a television does not facilitate trust within the provider-patient relationship. In contrast, we hypothesized that offering ice pops creates a feeling of hospitality and a unique sense of humanism between our staff members and patients that is reflected within our results showing an increase in courtesy, comfort, and listening. Interestingly, in our study, administering ice pops during winter months still resulted in a significant increase in patient experience metrics.

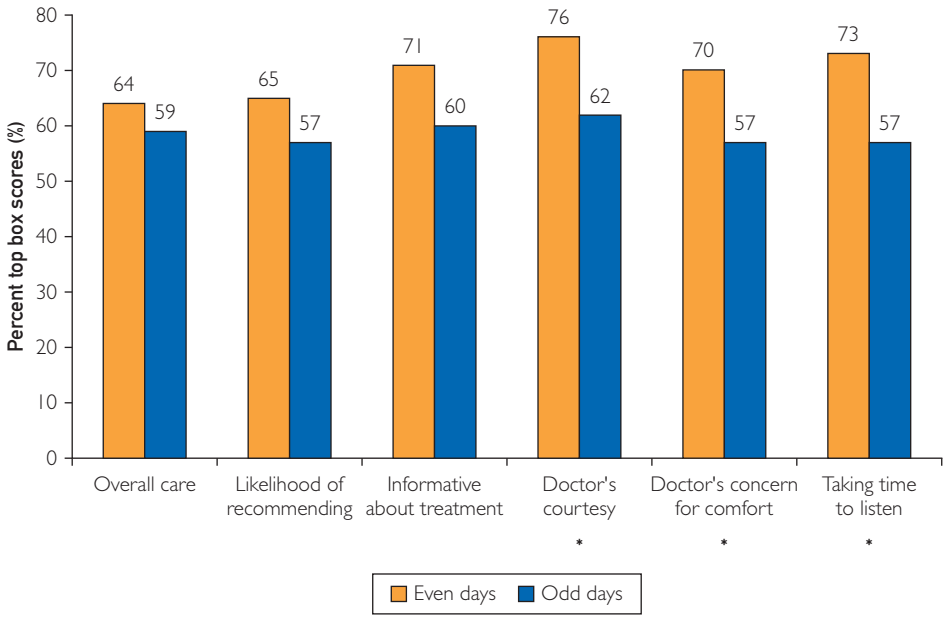

FIGURE 2. Percent of top box Press Ganey scores compared between even and odd days. A significant increase in patient experience scores was found for doctor's concern for comfort, doctor's courtesy, and doctor taking time to listen. *P<.05.

Overall care, likelihood of recommending, and being informative about treatment showed positive trends but were not statistically significant. We believe that courtesy, comfort, and listening all reflect the interventional domain of "interaction with providers." If this intervention were associated with the delivery of information, perhaps these other components would have reached significance. On the other hand, this data may suggest that provider interaction may not significantly impact the way parents view overall care or likelihood to recommend. There may be other quality interventions, outside of provider interaction, that have a larger impact on the overarching impressions of a visit.

This study is unusual in assessing the experience of parents witnessing their children's health care visit. Perhaps the gesture of courtesy facilitated a visit that was more comfortable for parents by treating/distracting a child's discomfort with an ice pop and allowing parents to communicate more easily with providers and facilitate listening skills.

Study Limitations

The small number of patients that fill and return patient experience surveys makes our results exploratory, and they should be interpreted with caution. In our study, only 11.3% of those sampled returned surveys compared to our ED's all-age response of 15.6%. This lower response rate suggests the potential for non-response bias; however, we did not have evidence that a higher response rate would lead to a different result. This study should be used as hypothesis generation; however, the low-cost and low-risk intervention makes this study applicable to other care settings. We do not know how many patients were excluded during the ice pop administration process, and we do not know how many total ice pops were distributed. We were also not able to match patient experience scores of patients who were offered an ice pop but did not accept, compared to the patients that were offered an ice pop and accepted or those who were not offered an ice pop because they were NPO or allergic. Only top box scores were assessed between even-numbered and odd-numbered days in data

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analysis; therefore, intermediate responses were not considered. Because this study only assessed pediatric patients, its generalizability to adults is limited. Because staff was made aware of the study design before implementation, the study could have also been influenced by the Hawthorne effect.

CONCLUSION

In this small prospective study, we used a low-cost intervention by offering ice pops to children in an academic-based and community-based ED resulting in an association with increased patient experience scores through means of perceived courtesy, comfort, and listening. By studying this across different settings and with a survey used widely among EDs, we believe this simple intervention may result in improved experience for patients in other acute settings.

Abbreviations and Acronyms: **ED** = emergency department; **HCAHPS** = Hospital Consumer Assessment of Healthcare Providers and Systems Survey

Potential Competing Interests: The authors report no competing interests.

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