

PEARLs of Wisdom: Impact of a New Block Conference on Pediatrics Resident Attendance, Satisfaction, and Learning

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Abstract

Background Resident attendance and participation at didactic conferences is often limited owing to time demands. In 2010, University of Wisconsin-Madison pediatrics residency eliminated all noon conferences and implemented a new block format, PEARL (Pediatric Education and Active Resident Learning).

Objective The purpose of this study was to assess whether changes in a conference structure improved resident attendance, distractibility, satisfaction, perception of clinical relevance, and connection.

Methods Pediatrics residents were surveyed to compare experiences in 2 different conference structures: a traditional noon conference and an interactive case-based PEARL conference. Pediatrics residents from the 2008–2010 classes were surveyed about noon conference experiences and 2009–2011 classes were surveyed about PEARL conference experiences.

Results Participants included 32 residents in the 2010 presurvey and 36 in the 2011 postsurvey. All measures of attendance, distractibility, and satisfaction showed positive changes. For example, the average proportion of conferences attended was 73% with noon conferences and 98% with PEARL ($P = .001$). However, measures of perceived clinical relevance and resident participation did not change significantly. For example, on average 47% of residents reported contributing comments in a noon conference, whereas 56% of residents reported contributing in a block conference ($P = .199$).

Conclusions PEARL conference significantly improved resident attendance, lowered distractibility, and improved resident satisfaction. However, these structural changes did not lead to changes in perceived clinical relevance of information learned or resident participation. Further content changes or faculty teaching strategies should be considered.

Introduction

A traditional part of residency training has been didactic learning conferences. Conferences are intended to impart medical knowledge and present information in a way that can be understood and translated into patient care. Further, conferences must be presented at a time when residents can attend them and focus on the material being presented.

The current medical model of didactic conferences includes morning report and topic-based conferences, such as morbidity and mortality conferences.^{1,2} In today's

training environment, duty hour restrictions have shortened time available for conference attendance, and conference time must be used wisely to justify removing residents from clinical duties in their shortened workday. Many programs are considering new conference structures to maximize learning in available time.

Previous work has suggested that block conferences are an innovative way to adapt to duty hour requirements.³ The University of Wisconsin-Madison Pediatrics Residency Program eliminated all noon conferences in 2010 and implemented a new bimonthly block conference called Pediatric Education and Active Resident Learning (PEARL). The conference provides a half-day of interactive case-based learning led by 2 faculty members per session, with focus on resident involvement and interaction. The purpose of this study was to assess whether changes in conference structure improved resident attendance, distractibility, satisfaction, perception of clinical relevance, and connection.

Methods

Data were collected between May 2010 and August 2011 and received approval from the relevant Human Subjects

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TABLE 1 STRUCTURED DIFFERENCES IN PEDIATRIC EDUCATION AND ACTIVE RESIDENT LEARNING (PEARL) CONFERENCES	
Traditional Conference (Noon Conference, Morning Report)	PEARL Conference
• 1 h, 3 times per wk • Faculty-led didactic session • Residents must balance their clinical and learning responsibilities	• 3.5 h, bimonthly • Led by 2 faculty, 1 resident • Time set aside specifically for residents to attend conference • No clinical responsibilities during this period

Committee. We used a pre-post design to assess resident views on conference attendance and learning, and compared a noon conference setting to a block conference setting.

Setting and Subjects

Participants were pediatrics residents from 1 midsized Midwestern residency program. Residents from the classes of 2008–2010 were surveyed about noon conference experiences in May and June 2010. Noon conferences lasted an hour, 3 days a week. These conferences included both resident-led and faculty-led didactic teaching sessions in which topics were based on Residency Review Committee requirements. This study was approved by the Institutional Review Board at the University of Wisconsin-Madison.

Beginning in July 2010, noon conferences were replaced with the PEARL conference held on Friday afternoons between 12:30 PM and 4 PM every other week. In July and August 2011, residents from the classes of 2009–2011 were surveyed about PEARL conference experiences (TABLE 1).

Data Collection and Recruitment

Residents were recruited during established educational conferences. After a research assistant explained the study and obtained consent, participants completed a paper survey. Respondents were provided a \$5 gift card as an incentive.

Data Sources and Variables

Participants provided demographic data including sex and year of training. For the presurvey, all questions assessed the noon conferences. For the postsurvey, all questions assessed the PEARL conferences.

Key teaching faculty and residents met monthly during the 9-month PEARL development phase and identified 5 topics as target areas for PEARLs to improve resident learning: attendance, distractibility, interaction, learning, and connection. These 5 topics also served as target areas for our investigation. We used a Likert scale to provide a range of responses for each topic of interest and piloted the scale with several learners to ensure it was understandable and represented the target areas of interest.

Attendance Residents were asked what percentage of noon conferences they attended; answer options included 0%,

25%, 50%, 75%, and 100%. Residents were asked how much of the conference they were present for; answer options included 0%, 25%, 50%, 75%, and the full conference time. These questions were asked separately for both inpatient and outpatient rotation settings.

Distractibility Residents were asked what percentage of time their pager went off during the conference. Residents were also asked, “While you were sitting in the conference, how much of your time was spent with your attention distracted by thoughts of ongoing clinical work?” For both questions, answer options included 0%, 25%, 50%, 75%, and 100%. These questions were asked for both inpatient and outpatient rotation settings.

Interaction Residents were asked, “Of the conferences you attended, about what percentage of the conferences did you contribute to by asking a question or offering a comment?” Answer options included 0%, 25%, 50%, 75%, and 100%.

Learning Residents were asked, “At the conference, how often did you learn new information that you were able to retain and apply to patient care?” Answer options included 0%, 25%, 50%, 75%, and 100%.

Connection Residents were asked a final series of Likert-scale questions in which answer options included strongly disagree, disagree, neutral, agree, and strongly agree on a scale from 1 to 5 where 1 indicated strongly disagree and 5 indicated strongly agree. These questions included the following: (1) conferences contributed to my connection to the residency program, (2) conferences contributed to my connection to faculty who taught these sessions, and (3) conferences contributed to my connection to coresidents.

Analysis

All statistical analyses were conducted using Stata version 11 (StataCorp LP, College Station, TX). Descriptive statistics were calculated. Student’s *t* test for nonpaired samples was used to compare predata and postdata.

Results

A total of 70 pediatrics residents participated in this study. This included 33 of 42 (78%) residents in the 2010 presurvey and 37 of 42 (88%) residents in the 2011

TABLE 2 DEMOGRAPHICS TABLE

	Presurvey	Postsurvey
Women, No. (%)	27 (82)	28 (80)
PL 1, No. (%)	8 (24)	12 (34)
PL 2, No. (%)	11 (33)	12 (34)
PL 3, No. (%)	14 (42)	11 (31)

Abbreviation: PL, pediatric level.

postsurvey. The total sample included all residency classes (TABLE 2).

Findings for attendance, distractibility, interaction, connection, and learning are detailed in TABLE 3. Key findings include the fact that during noon conferences, residents reported that the average proportion of conferences attended doubled with PEARL conferences compared to noon conferences. Disruptions during conferences

decreased from 59% during noon conferences to 2.8% during PEARL conference ($P = .001$).

Findings between noon conference and PEARL conference were not significantly different for perceived interaction and perceived learning. However, PEARL conferences received a significantly higher average rating for whether conferences contributed to residents' connection to the residency program (4.4 compared to 3.5 for noon conferences, $P = .001$).

Discussion

Findings suggest that PEARL conferences significantly improved resident attendance, lowered distractibility, and improved resident satisfaction. These findings show promise to improve attendance and focus in these learning environments. Given that conferences are the primary didactic teaching opportunities in residency, it is critical to maximize multiple educational and training goals. PEARL conferences also showed positive findings in contributing to

TABLE 3 RESIDENT PERCEPTIONS OF COMPARISONS BETWEEN NOON CONFERENCE AND PEDIATRIC EDUCATION AND ACTIVE RESIDENT LEARNING (PEARL) CONFERENCE

	Noon Conference	PEARL Conference	P Value
Attendance			
<i>Conferences Attended</i>			
Inpatient Rotation	48%	98%	.001
Outpatient Rotation	47%	94%	.001
<i>Time Spent at Each Conference</i>			
Inpatient Rotation	73%	98%	.001
Outpatient Rotation	82%	99%	.001
Distractibility			
<i>Pager Disruptions</i>			
Inpatient Rotation	59%	3%	.001
Outpatient Rotation	14%	14%	.04
<i>Thoughts of Other Obligations</i>			
Inpatient Rotation	40%	22%	.001
Outpatient Rotation	20%	10%	.06
Interaction	47%	56%	.2
Learning	50%	66%	.08
Connection			
Residency Program	3.5	4.4	.001
Faculty	3.2	3.7	.004
Other Residents	3.4	4.5	.001

residents' connection to their program, their faculty, and each other. Given that current training conditions and duty hours create a more fractured learning environment, these may be significant in improving residents' morale and reducing stress.

Our findings are complemented by previous work that investigated challenges in reducing resident distractions during conference time. During a PEARL conference, the residents sign out their pagers to avoid distractions during the conference. This practice has led to faculty concerns about residents missing clinical experience. However, a previous study⁴ assessed a series of pages sent to residents during conferences and found that of 884 pages during the study period, 743 could wait until after the end of morning report. Thus, allowing residents to focus on learning during a conference seems unlikely to lead to missing critical information.

Despite positive improvements in attendance and distractibility, our data did not demonstrate improvements in residents' perception of knowledge gained. One explanation is that block conferences and noon conferences may have similar educational benefits, which are part of a larger context of learning that makes up residency training. From this viewpoint, conferences may augment existing knowledge or provide initial insights into new knowledge, but this learning is not assimilated until used in the clinical setting. Some have argued that conferences are a weak education intervention; this interpretation is supported by previous work, which found that attendance at didactic lectures did not improve resident knowledge retention.⁵ Some studies^{5,6} have shown that adding innovative components through media can provide positive educational benefits; these may be future considerations for this conference. An alternative explanation is that despite the interactive case-based approaches used in PEARL, the

length of the sessions may have impeded residents' ability to take in all the information presented. Work remains to be done to further assess the best format and teaching approach to promote resident learning.

Limitations to our study include its focus on a single mid-sized pediatrics program and the use of a nonvalidated survey. Our study also compared 2 different cohorts with some degree of overlap, thus the cohorts could have had variation in their responses to different types of conferences. A final limitation is that we assessed resident self-report, including their perceptions of attendance, distraction, and knowledge gained.

Conclusion

Our findings suggest several benefits to a block conference schedule for resident training overall. These benefits must be weighed against challenges inherent in setting aside a block of time in which all residents are absent from clinical duties. Future work should seek methods to improve resident knowledge in didactic conference settings.

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