Is Two Weeks Enough? Recruiting Medical Students to Developmental Behavioral Pediatrics

The American Board of Pediatrics reports a total of 717 board-certified developmentalbehavioral pediatricians (DBP), age 70 and younger, in the United States in 2024 with around 19 million patients with DBP conditions necessitating their services.<sup>1</sup> The prevalence of neurodevelopmental and neurobehavioral disorders is increasing while the number of graduating DBPs has plateaued.<sup>2,3</sup> Some pediatric residents are unaware of the DBP subspecialty until they rotate through it. With a 1-week exposure during their 1<sup>st</sup> year, pediatric residents reported an increased interest in pursuing a DBP fellowship; suggesting the need for early exposure for recruitment.<sup>4</sup> Early exposure to DBP for medical students and its impact on career choices has not been studied.

Prior research has investigated the effects of longitudinal exposure of medical students or residents to a medical specialty and evaluated mostly self-reflection, development of professional identities, interest in the field, and perception of the field upon completion of the electives.<sup>5–8</sup> None of these studies investigated behavior changes related to career path.

Researchers have studied shorter exposure time in a specific medical field. These weekslong electives mainly examined changes in attitude towards the field, improvement in technical skills, changes in knowledge, and shelf exam performance upon their completion.<sup>9-13</sup> None of these studies looked at a change in career path after exposure to a specific field.

At our institution, approximately 5.4%-12.2% fourth year medical students matched into pediatrics from 2017 to 2025; a total of 179 students. The number of pediatric residents that pursued fellowship from 2017-2021 was 42%, but only one out of those who subspecialized matched into DBP. Meaning less than 1% of all pediatrics residents and 2.3% of residents who subspecialized went into the field of DBP.

Our institution requested faculty volunteers to create a 2-week elective rotation for clinical medical students. A 2-week DBP rotation was created for our institution to provide early exposure, and potentially increase recruitment, to the DBP subspeciality.

Objectives to evaluate this 2-week elective included:

- 1. Analyzing changes in medical students' attitudes related to DBP.
- 2. Assessing behavioral changes that likely suggest pursual of a DBP fellowship.

## Methods:

We utilized Kern's 6 steps for curriculum development, and the conceptual framework: situated learning- legitimate peripheral participation, to guide our goals, objectives, educational strategies, implementation, and evaluation for this rotation.<sup>14</sup> Educational strategies included assigned reading, online modules, lectures, peer teaching, group discussions, and reflection on their experience.

IRB exemption was obtained for program evaluation.

Retrospective pre-post surveys were completed after the students' rotation evaluations had been submitted. Students were asked about their previous exposure to DBP. A Likert scale was used- (5) indicting "Extremely" important, comfortable, or interested and (1) indicating "Not at all" important, comfortable, or interested. The survey utilized was an adaptation of a survey with previous validity evidence.<sup>4</sup>

Results of the surveys were analyzed utilizing a t-test.

## **Results:**

Thirty-six clinical medical students, twenty-six 3<sup>rd</sup> year (MS3) and ten 4<sup>th</sup> year students (MS4), completed the DBP 2-week elective. Twenty-three (nineteen MS3 and four MS4) completed and returned the surveys with a 64% response rate. One survey was removed due to incomplete data. Sixteen out of the 22 students (73%) reported no previous knowledge about the field of DBP.

The pre-post mean scores for the importance of DBP care for children were 3.9 to 4.9 (p-value <0.001), respectively. Comfortability caring for children with developmental or behavioral concerns increased from 2.3 to 4.0 (p-value <0.001). Applicability of DBP training to the students' future field of interest increased from 3.7 to 4.5 (p-value 0.17). Interest in learning more about the care of children with DBP concerns and interest in pursuing a DBP fellowship increased from 3.6 to 4.5 (p-value 0.001) and 2.5 to 3.2 (p-value 0.042), respectively. Each area assessed had a statistically significant increase in recognizing the importance, comfortability with, and interest in DBP.

## Conclusion:

Medical students reported positive differences in recognizing the importance, comfortability with, and interest in DBP. Not only were improvements in attitude reported, but behavior changes were noted as well. Out of the 36 students that completed the rotation, 3 were recipients of the Exploring DBP Program Award, and an additional 2 have applied this year, yielding a potential 14% student participation in the annual Society for Developmental & Behavioral Pediatrics meeting. This further exploration of the DBP subspecialty may lead to further interest and commitment, potentially resulting in the pursuit of a DBP fellowship.

Based on Kirkpatrick's hierarchy of educational outcomes<sup>15</sup>, which is an established best practice in education used to evaluate multilevel outcomes, medical students demonstrated a behavior change related to career path; pursuing additional early exposure to DBP at a national level. An increase of 1% of medical students pursuing DBP to a potential 14% is significant and has occurred with just 2 weeks of exposure to DBP.

This study was limited by a single institution, decreasing generalizability. There was a small sample size, but results are encouraging and would likely remain the same with a larger sample size. The data only includes students who signed up for the 2-week elective, indicating some level of previous interest, potentially introducing a selection bias.

This two-week curriculum was enough early exposure to change medical students' behaviors in further exploring/pursuing the field of DBP. Future plans for research include delineating potential differences in survey results between MS3 and MS4 to help determine if earlier exposure in the clinical years is more effective in changing career paths.

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