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Pediatric Residency Training and Behavioral Health: Models and Outcomes

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INTRODUCTION

- 75% of youth diagnosed with behavioral health (BH) conditions first present in primary care¹
- Pediatricians and pediatric residents are expected to manage these BH concerns due to shortage of available specialty BH providers in which to refer²
- Primary care has largely become the de facto BH delivery system, and PCPs have become the de facto providers
- Accreditation Council for Graduate Medical Education³ mandated a 4-week developmental behavioral pediatrics (DBP) rotation in pediatric residency programs to train future PCPs in BH
- Despite this mandated rotation, most PCPs believe they have inadequate training in BH⁴
- 85% of pediatric residency directors report minimal or suboptimal BH training in their programs⁵
- The American Academy of Pediatrics published a Policy Statement⁶ citing need for improved BH competencies for future PCPs
- The Policy Statement recommended these competencies be obtained through innovations in program curricula/training

PURPOSE

Describe and evaluate two innovative BH training curricula on improving pediatric residents' knowledge and skills in primary care BH service delivery compared to "training as usual"

METHOD

- PGY 1-3 pediatric residents across 3 training sites in the northeastern U.S.; non-participants either had scheduled clinic responsibilities or were scheduled off work at the time
- Residents at all 3 sites participated in 1-month DBP rotation
- Instrument
 - 29-item survey developed by study investigators
 - Items 1-8 consist of demographic questions including items about education/training history
 - Items 9-21 consist of resident's self-reporting their level of knowledge in evaluating/treating ADHD, and anxiety, depression, using evidence-based practice parameters on a 1-10 scale (1 = low confidence; 10 = high confidence)
 - Items 22-29 consist of open-ended questions asking residents to demonstrate their ability to deliver evidence-based care in evaluation and treatment for ADHD, anxiety, depression, and suicide using clinical vignettes.
 - Participants were asked to list all steps/considerations they would employ, in an exhaustive format, in evaluating/treating a condition based explicitly on evidence-based practice parameters in their field

Data Collection

Surveys were administered to residents at beginning and end of their training year; study participation was voluntary

Data Analysis

- ANOVAs and chi-square tests examined differences in background variables between sites
- Multilevel models examined whether the change in outcomes over time was significantly different between sites
- Models tested whether the DBP and DO sites experienced significantly more change in their outcomes than TAU
- For outcome variables with less than 5 categories, they were treated as ordinal variable and cumulative link multilevel models were used; for outcome variables with 6 or more categories, they were treated as continuous

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SITE 1

SITE 2

SITE 3

Variable	Training as Usual (TAU) (n=12)	Didactic Only (DO) (n=17)	Didactic + Integrated Primary Care (DIPC) (n=27)
Mean age (SD)	30.37 (2.49)	30.33 (2.41)	31.38 (2.28)
Female (n, %)	11 (92.5%)	12 (70.6%)	16 (59.3%)
Didactic rotation (n, %)	10 (83.3%)	12 (70.6%)	21 (77.8%)
DBP rotation (n, %)	1 (8.3%)	12 (70.6%)	12 (44.4%)
Weeks in medical school on mental health rotations w/ DO	4.83 (2.83)	5.73 (1.74)	5.08 (1.85)
Completed mental health training (months of medical school rotation in primary care in medical school, n, %)	12 (100%)	19 (85%)	20 (83.3%)
Did this primary care practice have an embedded behavioral health provider on site	6 (50%)	20 (100%)	16 (59.3%)
World from working/academic	3 (25%)	10 (59%)	21 (77.8%)
What type were they Social Workers	2 (16.7%)	7 (41%)	11 (40.7%)
Would you be more likely to go into primary care pediatrics if you were an integrated practice with embedded behavioral health provider (yes, n, %)	1 (8.3%)	16 (93%)	16 (59.3%)
Current residency year (n, %)	5 (41.7%)	9 (52.9%)	13 (48.1%)
PGY 1	2 (16.7%)	4 (23.5%)	5 (18.5%)
PGY 2	2 (16.7%)	9 (52.9%)	12 (44.4%)
Completed DBP rotation (n, %)	2 (16.7%)	10 (59%)	12 (44.4%)

Background: Participants/Sites

1ST YEAR OUTCOMES

Self-Reported Knowledge in Behavioral Health

Variable	TAU (n=12)	DO (n=17)	DIPC (n=27)
ADHD	7.21 (8.2)	6.42 (6.91)	6.09 (7.47)
Anxiety	7.27 (8.4)	6.16 (6.18)	6.35 (7)
Depression	7.73 (9.4)	7.16 (6.45)	7.17 (7.33)
Time*100 (p=0.02)	6.27 (8.4)	5.21 (4.73)	5.91 (6.21)

CONCLUSIONS

- Residents in DO and DIPC sites demonstrated improved "change scores" in more "Skills" categories than did TAU site
- This finding did not hold true in most "Knowledge" categories
- This finding may reflect a phenomenon in which trainees may overestimate their knowledge on a given topic when they receive less training/exposure (this has been widely replicated in much of the medical education literature; Dunning-Kruger Effect)
- Visual inspection of pre-post "change scores" indicates that the DIPC model is a promising approach to enhance BH learning
- In absence of DIPC, focused didactic exposure is still beneficial
- More research/advocacy needed for yet another benefit that integrated BH may provide (in addition to access, value, costs)

Limitations

- No preexisting psychometric properties of the instrument
- Small sample size; pilot study; difficult to detect significant differences; must use caution to not overstate results
- Generalizability of these results to those nationally is limited without controlling for other demographic, educational/training, and competency covariates

Evidence-based practice	Training as Usual (TAU)		Didactic Only (DO)		Didactic + Integrated Primary Care (DIPC)		Significance
	Pre (n=12)	Post (n=9)	Pre (n=20)	Post (n=17)	Pre (n=24)	Post (n=27)	
ADHD	3.08	2.83	3.15	3.73	3.87	4.07	
Anxiety	2.67	2.67	2.55	2.55	2.26	3.2	
Depression	2.55	2.67	2.55	2.82	2.83	3.8	
Time*100 (p=0.04)	2.92	2.17	2.85	3.64	3.65	3.53	
Time*100 (p=0.04)	2.25	2.67	2.15	2.91	2.04	3.07	
Time*100 (p=0.04)	2.17	2.4	2.6	2.44	2.52	2.47	
Time*100 (p=0.04)	2.1	2.2	2.2	2.45	2.22	2.6	

Measured Skills in Behavioral Health

Evidence-based practice	Training as Usual (TAU)		Didactic Only (DO)		Didactic + Integrated Primary Care (DIPC)		Significance
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