Improving Mental Health Training for Primary Care Residents:
A Resident-Led Educational Intervention

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ABSTRACT

Objective: Psychiatric training in family medicine residency programs is necessary but not always sufficient. A brief educational intervention was designed to help improve family medicine residents' knowledge, comfort, and attitudes in delivering mental health care.

Methods: A 6-hour didactic curriculum was taught by 2 psychiatry residents to family medicine residents between February and April 2015. Preintervention and postintervention surveys assessed participant demographics, knowledge, comfort levels, and attitudes regarding treating patients with psychiatric illness. Descriptive statistics were used to summarize results. Relationships between the sessions attended and preintervention and postintervention knowledge, comfort, and attitudes were investigated.

Results: Of 24 eligible residents, 15 completed each of the surveys preintervention and postintervention. Psychiatric knowledge scores were similar in the preintervention (mean score = 70%, SD = 15%) and postintervention (mean score = 69%, SD = 16%) groups. A significant positive correlation emerged between the number of didactic sessions attended and postintervention comfort levels (Spearman rank correlation coefficient: $\rho = 0.61$, $P = .02$). The number of sessions attended was also positively associated with postintervention knowledge scores, although this did not reach statistical significance ($\rho = 0.40$, $P = .16$). No relationship emerged between the number of sessions attended and participant attitudes ($F_{2,12} = 1.88$, $P = .19$).

Conclusions: A brief, resident-led educational intervention positively impacted family medicine residents' comfort in managing patients with psychiatric comorbidities. Further research is needed to establish the sustainability of gains and the impact of such educational interventions on patient care outcomes.

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Approximately half of all mental health services in the United States are provided in primary care settings.[1,2] Primary care providers see 60% of patients who receive treatment for depression and prescribe 79% of all antidepressants, although only half of these prescriptions may target depression.[3] On the other hand, primary care providers may have negative perceptions of psychiatrists as fellow specialists and of their patients with mental illness, posing barriers to optimal patient care and to effective collaboration across specialties.[4,5] As such, there is a great need among nonpsychiatric providers for adequate education on the management of psychiatric comorbidities in medically ill patients.

A large review[6] of mental health education for primary care physicians found few empirical studies and highlighted the variability in content, methods, and delivery. A national survey[7] of primary care internal medicine program directors revealed that, on average, their programs dedicated 99 hours (approximately one-third didactics and two-thirds clinical activities) to training on mental health conditions. Survey respondents believed that psychiatric training was important, and 63% felt that more mental health education was needed.[7] Primary care residents themselves indicated low comfort with seeing patients with mental illness due to a lack of formal training in psychiatry.[4] Furthermore, a recent survey[5] of practicing family medicine physicians highlighted their desire to work with psychiatrists and receive further education in psychiatry, suggesting a potential for additional training in psychiatry in family medicine residency programs.

The Accreditation Council for Graduate Medical Education (ACGME)[8] requires family medicine residency programs to implement a structured curriculum focused on the diagnosis and management of common mental illnesses. However, curriculum specifics (content, duration, supervision, or timing) are not explicit. Training programs use a variety of methods to achieve this requirement, including behavioral health rotations of varying lengths with supervision by clinical psychologists and family medicine and psychiatric attending physicians. Adjunctive strategies include didactics, case conferences, grand rounds, and specialist live or telehealth consultations or peer-to-peer teaching and consultation.[1,4,9] Huzij et al[9] highlighted a 20-hour curriculum for family medicine residents taught by fourth- and fifth-year family medicine and psychiatry colleagues. Family medicine trainees participating in this intervention rated peer-to-peer teaching highly (4.7 on a Likert scale of 1–5, with 1 = strongly disagree and 5 = strongly agree).[9] Another approach was to pair family medicine residents with psychiatry "buddies," who were in turn supervised by psychiatric attending physicians.[10] In this model, 93% and 50% of family medicine residents were satisfied with contacting their senior and second-year peers, respectively, with questions regarding patient management, psychopharmacology, and other clinical dilemmas.[10]

The aim of the present project was to determine if an educational intervention, largely facilitated by psychiatric resident colleagues, could

Clinical Points

- Primary care physicians provide about half of all mental health services in the United States.
- There is a great need for adequate education on the management of psychiatric comorbidities in the medically ill among nonpsychiatric providers.
- A brief largely psychiatry resident–led didactic curriculum may help improve knowledge among family medicine residents; those who attend at least 3 sessions may be more comfortable treating patients with psychiatric comorbidities compared to their colleagues who attend less than 3 sessions.

help family medicine residents in 3 ways: (1) to improve knowledge on mental health topics, (2) to enhance comfort with treating patients with psychiatric illness, and (3) to shift attitudes with regard to treating patients with co-occurring psychiatric and medical conditions.

METHODS

The study was approved by the University of Southern California (USC) Keck School of Medicine/Los Angeles County and USC Medical Center Committee on the protection of human subjects (study #HS-15-000-62).

Participants

Participants were 24 eligible family medicine residents in their postgraduate year 1 through 3 at Dignity Health California Hospital Medical Center (CHMC), an unopposed (family medicine residents only) site in downtown Los Angeles, California, affiliated with Los Angeles County and the USC Medical Center. Participation was voluntary, although there is a general expectation that residents attend 70% of all seminars.

Intervention

A brief didactic curriculum based on a needs assessment (interview with CHMC family medicine program director) focused on common psychiatric disorders in primary care (eg, anxiety, depression), difficult-to-manage scenarios (eg, psychosis, mania), and other clinical dilemmas (eg, suicide risk assessment, lithium toxicity). The curriculum consisted of 6 one-hour lunchtime didactic sessions covering the following topics: psychiatric emergencies (2 hours), capacity assessment, delirium, bipolar disorder and psychosis, and depression and anxiety. Sessions were facilitated by 2 third-year psychiatric residents and a board-certified general psychiatrist who specialized in consultation-liaison services to inpatient and primary care medical settings. Teaching methods included brief lectures, case-based learning (with the participants' elicited cases or sample vignettes), and peer- and group-based teaching.

Survey

The survey used for this project was based on a previously published survey modified with permission.[4] The survey was administered in paper and electronic format (via SurveyMonkey) at the end of the first and last didactic session (in February and April 2015). The preintervention survey consisted of 21 questions that explored participant demographics, the number of psychiatric rotations completed during medical school and in residency up to that point, baseline fund of psychiatric knowledge (10 questions), and attitudes toward and comfort with treating patients with psychiatric illness. The postintervention survey included the same 21 items plus an additional question on the number of didactic sessions attended. Participation was voluntary, and responses were anonymous. Survey links were sent to all residents regardless of participation in the curriculum.

Table 1. Characteristics of Preintervention and Postintervention Participants[a]

Characteristic	Preintervention (n = 15)	Postintervention (n = 15)
Postgraduate year[b]		
1	4 (27)	7 (50)
2	5 (33)	5 (36)
3	6 (40)	2 (14)
Age		
< 30	6 (40)	7 (47)
31–40	9 (60)	8 (53)
Gender		
Female	9 (60)	9 (60)
Male	6 (40)	6 (40)
Race/ethnicity[c]		
Asian American	6 (43)	2 (15)
Black/African American	2 (14)	2 (15)
Hispanic	2 (14)	3 (23)
White	4 (29)	6 (46)
Number of psychiatry rotations in medical school		
1	13 (87)	14 (93)
2	2 (13)	0
3	0	0
4	0	0
> 4	0	1 (7)
Number of psychiatry rotations so far in residency		
0	10 (67)	13 (87)
1	5 (33)	2 (13)
Number of didactic sessions attended, n		
0		1
1		0
2		3
3		5
4		3
5		2
6		1

[a]Participants in the preintervention and postintervention groups were not the same, although there was overlap. All values are n (%) unless otherwise noted.
[b]Missing data in postintervention survey (n = 1).
[c]Missing data in preintervention (n = 1) and postintervention surveys (n = 2).

Statistical Analysis

The results were summarized using descriptive statistics. Frequencies (percentages) were calculated for preintervention and postintervention participant demographic characteristics. Means and standard deviations (SDs) were calculated for the number of didactic sessions attended by the postintervention group after stratifying

Table 2. Family Medicine Residents' Attitude and Comfort Levels Regarding Treatment of Psychiatric Patients and Psychiatric Knowledge Scores Preintervention and Postintervention

Survey Question	Preintervention (n = 15), n (%)	Postintervention (n = 15), n (%)	Number of Didactic Sessions Attended,[a] Mean (SD)
Attitude: *How many psychiatric patients would you prefer to see in your practice?*			
No psychiatric patients	2 (13)	0	…
Fewer psychiatric patients	6 (40)	6 (40)	3.6 (1.2)
More psychiatric patients	0	2 (13)	4.5 (2.1)
No preference	7 (47)	7 (47)	2.5 (1.3)
Comfort: *What percentage of time do you feel comfortable treating psychiatric patients?*			
0%	0	1 (7)	3.0 (0)
25%	5 (33)	2 (13)	1.0 (1.4)
50%	7 (47)	10 (67)	3.6 (1.0)
75%	3 (20)	2 (13)	4.0 (2.0)
100%	0	0	…
Knowledge score[b,c]			
100%	1 (7)	0	…
90%	1 (7)	2 (14)	3.5 (0.7)
80%	3 (20)	5 (36)	3.8 (1.3)
70%	5 (33)	1 (7)	4.0 (0)
60%	3 (20)	3 (21)	4.0 (1.7)
50%	1 (7)	2 (14)	2.5 (0.7)
40%	1 (7)	1 (7)[d]	0 (0)

[a]For those in the postintervention group.
[b]Calculated as percentage of correct answers for 10 questions (same questions were used preintervention and postintervention).
[c]Only 14 participants answered psychiatric knowledge questions in the postintervention survey.
[d]One resident who completed the postintervention survey had attended no didactic sessions.
Symbol: … = not applicable.

responses with regard to psychiatric knowledge, attitudes, and comfort with treating psychiatric patients. Relationships between the number of didactic sessions attended and postintervention knowledge, comfort, and attitudes regarding patients with psychiatric illness were investigated. For knowledge and comfort levels (which were treated as continuous variables), Spearman rank correlation coefficient (ρ) was used. For postintervention attitudes toward patients with psychiatric illness (categorical variable), the relationship with the number of didactic sessions attended was examined using analysis of variance.

RESULTS

Fifteen residents (62% of all eligible) completed each of the surveys preintervention and postintervention. Table 1 shows participant characteristics in the preintervention and postintervention groups.

Fourteen participants answered the psychiatric knowledge questions postintervention. On average, participants attended 3.3 didactic sessions (SD = 1.4). Knowledge scores were similar in the preintervention (mean group score = 70%, SD = 15%) and postintervention (mean group score = 69%, SD = 16%) groups. Following the intervention, 12 (80%) respondents reported they were comfortable managing psychiatric patients at least half of the time compared to 10 (66%) before. Those who felt comfortable at least half of the time postintervention had attended a mean of 3.6 didactic sessions (SD = 1.2), whereas those with lower comfort levels had attended a mean of only 1.6 didactic sessions (SD = 1.5). A significant positive correlation between the number of sessions attended and postintervention comfort levels was found (ρ = 0.61, $P = .02$). The number of sessions attended was also positively associated with postintervention knowledge scores, although this did not reach statistical significance (ρ = 0.40, $P = .16$). No relationship emerged between the number of sessions attended and participant attitudes toward psychiatric patients ($F_{2,12} = 1.88$, $P = .19$). Table 2 illustrates preintervention and postintervention participant knowledge scores and attitude and comfort levels regarding treatment of psychiatric patients, with the number of didactic sessions attended for the postintervention group.

DISCUSSION

This pilot study explored whether a brief 6-hour educational intervention by psychiatric residents helped improve family medicine residents' knowledge, comfort levels, and attitudes toward treating patients with mental illness. Our findings suggest that family medicine residents who attended more didactic sessions were significantly more comfortable treating patients with psychiatric comorbidities and had higher knowledge scores (nonsignificantly) than those who attended fewer sessions. This finding is encouraging because it suggests that educating family medicine residents on psychiatric emergencies and common scenarios helps them feel more autonomous and confident.[11] However, there was also a resident who reported not feeling at all comfortable treating patients with psychiatric illness after attending 3 classes.

Primary care physicians' comfort with managing various psychiatric difficulties may depend on numerous variables, including demographic factors (age, sex, level of training, cultural background), fund of knowledge, previous exposure to psychiatric rotations, personal experience with mental illness, and practicing in a group with adequate coverage and staff support.[2,4,12,13] In a study[2] exploring care for patients with depression, family physicians with access to collaborative care reported greater knowledge, skills, and comfort with managing psychiatric disorders even after controlling for demographics and interest in psychiatry. Our findings are in contrast to a previous study by Iskandar et al,[4] whereby half of respondents felt comfortable seeing psychiatric patients only 25% of the time. Our sample size was too small to explore in detail factors contributing to variable levels of comfort among respondents. Future qualitative studies may be helpful to better understand this important aspect of health care.

The present study also uncovered a positive (albeit not significant) relationship between participant

postintervention knowledge scores and the number of didactic sessions attended. Of note, no participant achieved a score of 100% after the intervention, although there was a resident with such a score in the preintervention group. Similar to the 20-hour intervention by Huzij et al[9] aimed at increasing psychiatric knowledge among family medicine residents (which resulted in an average score improvement of 20%), this project included difficult case discussions and board-style review questions adapted from family medicine in-service training examinations. Both educational interventions included elements of interactive learning, although Huzij and colleagues[9] also included movie clips and games. Attendance was not required in the present study. In fact, one respondent attended no didactics and nevertheless obtained a 40% knowledge score. A longer curriculum using flipped classroom or interleaving principles might have been more effective.[14] Also, the educational intervention could have been paired with a peer/buddy system or consultation to family medicine program for higher impact as in previous studies.[9,10]

The present study showed no meaningful postintervention group changes in attitudes toward patients with mental health conditions. Using case vignettes of patients presenting for physical complaints, physician trainees were found to have more negative attitudes toward patients with psychiatric disorders compared to those without psychiatric diagnoses.[15] In contrast, a survey by Thomas et al[5] found over half of family medicine physicians (both faculty and residents) stated they wanted to see psychiatric patients. Hodges et al,[6] in their review of psychiatric curricula for primary care physicians, reported that many educators do not attempt to address attitudes toward psychiatry, although longer interventions had a positive impact on physician attitudes, perhaps due to the longitudinal educator/learner relationship. The present intervention was limited to 6 didactic sessions over 3 months, and there was no follow-up to ascertain its long-term impact on attitudes. It is important to note that the survey wording "psychiatric patients" may have influenced responses as well, since this could be interpreted as patients with severe persistent mental illness who typically need to be seen in mental health care clinics rather than in primary care. In future studies, "medically ill patients with psychiatric comorbidities" may be a more adequate phrasing.

There were several limitations to this study. The sample size was limited in part due to the small residency program size. The 62% survey participation rate was lower than in other recently published studies[16,17] involving residents (approximately 80%); however, not all family medicine residents attended the didactic series and not everyone who attended the didactics completed the surveys. The survey used for this study was not previously validated, although it was based on a previously published survey[4] modified with permission. An important study design limitation was that preintervention and postintervention survey responses were not individually paired (though there was some overlap among groups, survey completers were not the same at both times). Thus, it was not possible to assess changes in knowledge, comfort levels, or attitudes of individual learners after participating in the didactic curriculum. Finally, this study followed steps 1–5 of Kern's 6 steps of curriculum development[18] (performing a targeted needs assessment, establishing goals and objectives, identifying the content and teaching methods, and implementing the intervention); however, there was no formal evaluation of the curriculum.

In summary, a brief psychiatric resident-led educational intervention positively impacted family medicine residents' comfort in managing patients with psychiatric comorbidities. Further research is needed to establish the sustainability of gains and the downstream impact of such educational interventions on patient care outcomes.

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