

The Impact of A 4-Week Intensive Psychiatric Resident Rotation on Clinical Outcomes of a Substance Abuse Intensive Outpatient Program (SAIOP)

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ABSTRACT

Relevance/Objectives: Substance use disorders are prevalent and can lead to disastrous clinical outcomes (e.g., opioid crisis). National surveys suggest that medical education training needs to be increased in psychiatry/mental health and medicine. A resident psychiatric rotation was created to meet training requirements and to help improve outcomes for a rural, diverse community's high prevalence of substance use disorders.

Methods: Patients were non-randomly assigned to one of two groups for a 90-day, outpatient Substance Abuse Intensive Outpatient Program: usual care; and the resident intervention group, which was assessment and treatment with supervision in place of other service visits. Patients' graduation rates in were compared for two groups, with graduation defined by completing 14 individual therapy, 14 group therapy and 56 12-step meetings.

Results: The groups did not differ in demographics, drug of choice (51% methamphetamine, 24% alcohol), number of substance disorders (mean 2.4) or frequency of visits (mean 3.2). Graduation rates were 41/743 (5.52%) for usual care and 21/42 (50%) for the resident intervention.

Conclusions: Efforts to improve medical and graduate education training for patients with substance disorders should focus on longitudinal, integrated substance rotations built on academic-community partnerships. More research is needed on specific curricular interventions as part of health service delivery.

Keywords

Addiction, Behavioral, Substance, Treatment, Training.

Introduction

Substance use disorders (SUDs) in the United States (U.S.) are an epidemic [1]. Methamphetamine use produces more offenses

than any other drug in 27 states according to the U.S. Sentencing Commission [2]. Despite this, it has not garnered the national attention that opioid use disorders have received [3]. Marijuana is the most widely used illicit substance in the U.S. and yet it produced the most offenses in only 4 states [2]. To provide some context, a Substance Abuse and Mental Health Services

Administration (SAMHSA) study found illicit substance use rates over the last month of 10.2% overall, 8.6% for marijuana and 0.2% for methamphetamine [4]. Alcohol Use Disorder (AUD) has a 29.1% lifetime prevalence in the U.S. [5].

Patients with complex substance use disorders usually meet the American Society of Addiction Medicine criteria for higher level of care provided by inpatient SUDs rehabilitation programs [6]. The transition from inpatient to outpatient program has historically poor outcomes, with high non-adherence to appointments and/or treatment recommendations. Community outpatient SUDs treatment programs have low graduation rates of 15%-20% in comparison to inpatient SUDs treatment program rates of 70%-80% [7] and few programs have residents involved [8].

The Accreditation Council of Graduate Medical Education mandates a 4-week addiction rotation in general psychiatry training [8]. Program directors surveyed report that addictions training often takes place in general psychiatry rather than specialty settings, which have greater emphasis on screening, evaluation and treatment of SUDs. Curriculum content and clinical experiences varied substantially between programs and a lack of addictions-trained faculty members was also an impediment to comprehensive training [8]. Undergraduate and graduate medical education curricula across medicine have not kept pace with SUD impact, with limitations due to time, patient populations and supervision [8-10].

The purpose of this study was to evaluate if a 4-week addiction resident training rotation – with psychiatric resident evaluation and treatment visits replacing those of an addiction counselor – impacted graduation rates over a 1-year period for patients enrolled in a 90-day

Substance Abuse Intensive Outpatient Program (SAIOP).

Methods

Background Information and Study Design

The Kaweah Delta Health Care District includes the 500-bed, private non-profit Kaweah Delta Medical Center, a psychiatry residency and 4 other residencies as part of a public community hospital system. The system helps a medically underserved area, whose population comes from a broad range of socioeconomic, geographic (e.g., rural), and cultural backgrounds. Per capita, Tulare County is the poorest in California; per capita income is \$22,606, with 22.5% below the poverty line, and 11.2% geographically mobile (i.e., migrant) (The Census Reporter, 2020).

The county adapted an IOP model to provide treatment for patients with alcohol and/or substance use disorders. Referrals to the 90-day SAIOP are primarily from Courts, Child Protective Services and Medical Clinics in the California Central Valley. Other substance

settings include a community based residential facility for alcohol treatment and a drug court. There is also focus on consequences of addiction, readiness for change and self-help groups. Supervision is

from a wide range of professionals, including addiction/substance psychiatrists, psychologists, marriage family therapy, social work and other certified/trained staff.

This was a non-randomized retrospective cohort comparison study with chart review data of patients enrolled at the County outpatient clinic over a one-year period.

Resident Curriculum

The clinical rotation for residents is full-time for one month during the post-graduate year 2 (PGY-2). It is in the county substance use clinic rather than in an inpatient or outpatient psychiatry/mental health setting. Supervision is by addiction/substance psychiatrists, psychologists, marriage family therapy, social work and other certified/trained staff. Other meetings including: interprofessional treatment team twice/week; case-based supervision with the psychiatrist twice/week; ad hoc patient management meetings; and ad hoc counselor-resident meetings.

The residency curricular didactics include, “Introduction to Addiction Psychiatry,” weekly, total of 5 hours in the PGY-1, as taught by psychiatry, psychology, social work and community recovery group members. It focuses on evaluation, diagnosis and treatment of patients suffering from addictions to substances and other things like food, sex and gambling. Seminar emphasis is placed on case- and problem-based learning, standards of care and readings from major textbooks. The “Advanced Addiction Psychiatry,” seminar is weekly, a total of 5 hours, and during PGY-2. It teaches: advanced approaches to evaluation, diagnosis and treatment of patients suffering from addictions to substances and other behaviors; attention to comorbid conditions; dual diagnosis treatment; and interdisciplinary collaboration. Seminar emphasis is placed on new neuroscience paradigms, evolving debates in the field, and recent publications; it employs video, case-based, team-based, and didactic/lectures methods. Mood, anxiety, consultation-liaison, emergency psychiatry and other psychopharmacology seminars (e.g., “Psychopharmacology for Subspecialties” in PGY-2 and PGY-4 years) also include specific substance topics.

Groups Compared and Study Intervention

Usual care. Patients were evaluated by addiction counselors (rather than addiction physicians, substance trained psychiatrists or psychiatric residents) with clinical interviews based on the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) [11]. Biweekly follow-up visits emphasized psychoeducation and prevention relapse. Alcohol and drug testing were done when starting the SAIOP, intermittently (clinician decision, court-ordered, other), and in finishing the Program; positive tests did not result in the patient being removed from the Program or being unable to graduate. Patients declared drug of choice by survey, but the final decision based on the clinical interview.

Intervention. Addiction counselors selected patients for psychiatric evaluation and treatment based on possible co-occurring and/or complex disorders – most likely difficult cases. The intervention consisted of an initial psychiatric evaluation and

then biweekly follow-up appointments with psychiatry residents (N=7, interns) with supervision by an addiction medicine faculty (LL) – longitudinally over the 1-year period. These appointments were substituted for an appointment with an addiction counselor and focused on psychoeducation and prevention relapse, and informally applied motivational interviewing and cognitive behavioral therapy techniques from training.

Outcome Measure

SAIOP graduation required completion of 14 individual therapy, 14 group therapy and 56 12-step meetings completed in a 90-day period.

Analysis

Descriptive statistics were used to compare the groups and outcome measure (i.e., graduation rates).

Institutional Review Board (IRB)

An exemption was granted by the Medical Center IRB due to identified, aggregate data use.

Results

Overview

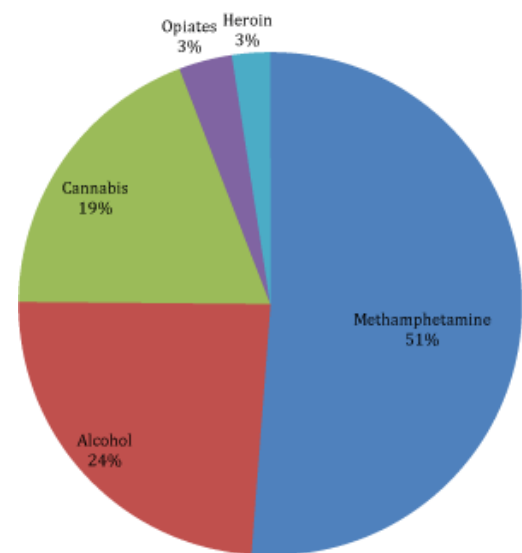
The population race and ethnicity were 60.6% Hispanic, 28.1% White, 4% Asian, 3.4% Native American, 1.6% Black and other less than 1% (Islander, two races, other). The Program had 53.0% Latino and 39.4 Native American (Table). Overall, 55.26% (105/190) of Program patients who were 18 years of age or older; the two groups did not differ. Only 71% graduated high school and only 15.9% have a bachelor’s degree or more; the groups did not differ.

Characteristic (CENSUS 2010)	CA	Tulare County	Admissions to Alcohol & Other Drug Treatment by Race/Ethnicity (Rate Per 100,000 of Population)
N	37,253,956	442,179	4,538
Ethnicity			Percentage/Rate
Caucasian	37.7%	60.1%	1.9%/84
American Indian	1.7%	3.4%	39.4%/1,788
Latino	38.9%	60.6%	53.0%/2,404
African American	6.5%	1.6%	2.8%/129
Asian	14.8%	0.1%	1.5%/70
Median household income	\$63,636	\$43,550	

Table 1: Sociodemographic Description of The Substance Abuse Intensive Outpatient Program Patient Population.

Drug of Choice and Concurrent Substance Use

Overall, patient drug of choice was declared as methamphetamine (51%), alcohol (24%), cannabis (19%), heroin (3%), non-heroin opiates (3%) and other (Figure); the groups did not differ. The groups also did not differ in terms of average number of substances used per patient – including alcohol and illicit ones (mean 2.4) and visits per month (mean 3.2).



Drug of Choice	Number of patients
Methamphetamine	105
Alcohol	49
Cannabis	39
Opiates	7
Heroin	5

Figure 1. Drug of choice for substance abuse intensive outpatient program participants.

Outcomes

The intervention by psychiatric residents yielded a 50% graduation rate (21/42), while the usual care group yielded a 5.5% graduation rate (41/743). Incidentally, 15% (5/42) of the patients were prescribed new psychiatric medications by psychiatric residents with supervision for psychiatric comorbidities (e.g., bipolar disorder, major depression, social anxiety disorder).

Discussion

The patients in this study had higher rates of methamphetamine use than the general populations in U.S. [1,4] and were culturally diverse [12]. Over the 1-year period, the intervention group had a 9-fold greater graduation rate when compared to the usual care group. It was surprising to find that less than 15% of patients were started on new psychiatric medications, though interns may not be as assertive as more experienced residents. It is unclear what tangibles and intangibles in the therapeutic relationship improved treatment outcomes – medication initiation was minimal; informal motivational interviewing and cognitive behavioral therapy techniques may have had impact, but were not “dosed” intensively nor structured. Addiction therapists commonly apply these techniques, too.

Issues with core substance training issues for psychiatry and family medicine persist despite courses in medical school and changes made related to the opioid crises. Student surveys in 2000 reported 20% had “none” and 56% only “a small amount” [13] versus 2015 (139 of 142 schools reported a required course, with 140 teaching the content in pre-clerkship courses and 132 teaching it in one or more required clerkships) [14]. A recent survey of residency

program directors reported four things: 1) 76.9% said that residents frequently manage patients with an opioid use disorder (OUD); 2) 23.5%, the program dedicates 12+ hours of curricular time to addiction medicine; 3) 35.9%, the program encourages/requires training in OBOT; and 4) 22.6%, the program encourages/requires obtaining a Drug Enforcement Administration (DEA) waiver to prescribe buprenorphine [15]. Efforts are still needed for “good” clinical rotations with supervision and mental health outreach to primary care [16].

Design of training rotations and community partnerships are important considerations moving forward. Typically, a 4-week block in the first or second year is used rather than a longitudinal part-time rotation (though fourth year electives are sometimes available) [8]. For patient and learning outcomes, longitudinal rotations using standardized approaches are desirable [8,17,18]. An academic-community partnership is a common approach to bridging the health gap in medically underserved communities [19]. Many rural areas are not able to access residency programs unless they use telehealth, and if they could, there are competing demands for psychiatric resident and supervisor time [17], including via technology [16].

This study had many limitations. There was potential bias in how patients were referred by addiction counselors; this usually results, though, in sicker patients with poorer outcomes.

The sample size is small and the design was non-randomized and retrospective. The study did not collect specific information on other mental health and medical comorbidities; the comorbidity of mental and substance disorders is over 50%, and the rate of substance disorders is similar to that of diabetes [20,21]. The results may not be generalizable, as the population may not be representative and counties use different graduation criteria. Specific, measurable clinical and training interventions and evaluation were lacking. Medication doses were not collected and the sample of those patients was too small to analyze.

Conclusion

Efforts to improve student, resident and other graduate education training for patients with substance disorders should take a broad curricular approach beyond seminars, strive for integrated substance rotations and build on academic-community partnerships. The resident intervention group in this study appears to have impact, though the key ingredients are not clear, as there are limitations in methods. More research is needed on specific, replicable curricular and health service interventions, with standardized measures and broader evaluation of outcomes for this population.

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