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Evaluation of a substance use disorder curriculum for internal medicine residents

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Abstract

Teaching about diagnosis, treatment and sequelae of substance use disorders (SUDs) is insufficient in most Internal Medicine residency programs. To address this, we developed, implemented and evaluated a novel and comprehensive SUD curriculum for first year residents (interns) in Internal Medicine, which anchors our ensuing 3-year longitudinal SUD curriculum. Our intern curriculum includes didactic and experiential elements and allows skills practice. Topics include: local epidemiology of substance abuse, neurobiology of SUDs, and screening, treatment, and referral. The entire curriculum is delivered over 7 hours during a month-long ambulatory rotation. Among 58 interns who have completed a pre/post evaluation of the curriculum, the majority reported an increased sense of responsibility for and confidence in treating patients with SUDs.

Keywords

substance use disorders; resident education

Introduction

Though nearly all physicians treat medical and other consequences of substance abuse, there is little dedicated time in medical training devoted to improving care for this complex set of problems[1,3]. The high prevalence and consequences of substance use disorders (SUDs) among medical patients highlight the need for comprehensive, competency-based SUD training in Internal Medicine training programs[2,4]. To address this gap, we developed, implemented, and evaluated a novel SUD curriculum in our Internal Medicine residency training program.

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To develop our comprehensive curriculum, we sought guidance from the 2002 core competencies in substance abuse education for physicians published by the Association for Medical Education and Research in Substance Abuse (AMERSA).[5] The specific competencies addressed in our intern curriculum include the ability to: screen for SUDs; perform effective brief interventions; use counseling to prevent SUDs; refer to SUD treatment programs; recognize and treat comorbid medical and psychiatric problems; and assess patients with SUDs.

Our curriculum was designed to include experiential methods and role modeling, which have been shown to be more effective in improving learners' attitudes and skills in working with patients with SUDs than didactic methods alone.[6] The combination of didactic and experiential teaching methods allows faculty to deliver information, and then provides opportunities for learners to practice skills in applying the information.[5,6] We also partnered with physicians with expertise in SUDs to develop and implement the curriculum.

Methods

Setting

Our comprehensive curriculum was implemented in an Internal Medicine residency program affiliated with a large, urban hospital. Learners are residents in the categorical and primary care tracks of our Internal Medicine residency training program. The curriculum is required for all residents.

Curriculum Development

Our curriculum was designed by clinician-educators from our Internal Medicine residency program and our Division of Substance Abuse. We began with a review of our residency program's existing SUD curriculum. We then searched the medical education literature for educational interventions, curricula, and recommended competencies related to SUDs. Finally, we held a series of meetings with key stakeholders to clarify the educational needs of the residents, and to establish goals for the curriculum.

After reviewing recommended substance abuse competencies and the most common SUDs and related problems seen among our patients, we identified topics of greatest relevance and interest for our residents. These included: opioid dependence, cocaine abuse, alcohol abuse, biological basis of addiction, SBIRT, substance abuse treatment, and harm reduction. Our curriculum also addresses issues of professionalism and interpersonal communication. Sessions are taught by physicians (internists), who have expertise treating patients with SUDs and/or psychosocial medicine.

Specific Curricular Elements

The intern curriculum has seven elements, which use both experiential and didactic teaching methods. Throughout the curriculum, there are multiple opportunities to discuss the challenges of working with drug users, and experienced clinician-educators model professional behavior in discussing cases and facilitating experiential sessions. The first element of the intern curriculum is a lecture providing a brief overview of the curriculum

and a review of the local and national epidemiology of SUDs. The second element of the intern curriculum is a simulated patient exercise which addresses competencies related to screening, assessment, counseling, brief intervention, and comorbid medical conditions. In the third element, the interns hear a presentation by a member of Alcoholics Anonymous (AA). The presentation covers the history, basic tenets and functioning of AA, as well as some information about the personal history of the presenter. The faculty facilitator guides the discussion to include information which is concrete and useful for the interns. The fourth, fifth, and sixth intern elements consist of lectures which address pharmacotherapy of opioid dependence, including methadone and buprenorphine; the effects, medical complications, and treatment options associated with the use of cocaine and other stimulants; and the neurobiological basis of addiction. The seventh element of the intern curriculum is a presentation by patients who have been trained to educate residents about SUDs. The patients, who are or have been enrolled in drug treatment, make brief presentations about illicit drug use. A faculty member facilitates the discussion and relates the information presented to the interns' prior experience and knowledge.

Implementation and Evaluation of the Curriculum

We piloted the curriculum in 2006, and then implemented it fully from 2007 to 2008. Between 35 and 40 interns participated during each of the three years.

Using a pre-post design, we conducted an evaluation of the seven-element intern curriculum in 2007-2008. We administered a questionnaire to all learners before the first intern session, and within 2 weeks of the final session. The questionnaire included items on demographic characteristics; overall sense of responsibility for and confidence in ability to screen for and counsel about SUDs; and interest and self-assessed competence in specific skills in treating patients with SUDs.

Analytic Methods

To identify changes in residents' sense of responsibility, confidence, interest and self-assessed competence, we collapsed questionnaire responses into dichotomous variables. We compared proportions of affirmative responses before and after participation in the curriculum. For all dichotomous comparisons, we assessed significance using McNemar's test.

Results

Fifty eight of seventy seven interns completed both pre-and post-tests (75% response rate). The respondents were 49% female, with a mean age of 28 years. 43% identified their race as Asian, 39% as non-Hispanic white, 5% as non-Hispanic Black, 5% as Hispanic, and 7% as "other." Most planned future careers as subspecialists (77%). Only 8% reported prior training in SUDs, and 51% reported that they have a friend or family member with a SUD.

Overall self-assessed responsibility for and confidence in screening and counseling patients with SUDs significantly improved after the curriculum for nearly all items (Table). Residents' self-reported confidence in discussing drugs of abuse and treatment options, counseling about SUDs, and initiating change in patients' drug use also increased

significantly. Though we did not observe changes in residents' sense of responsibility for screening for SUDs, scores on these items were high before they received the curriculum.

We also observed significant increases in residents' self-reported competence in performing four of the five specific SUD-related skills following participation in the curriculum (Table). This is in contrast to residents' self-reported interest in SUD-related skills, which was positive prior to the curriculum, and did not improve after it.

Discussion

Our curriculum on SUDs is unusual for several reasons. Instead of lecture or single session format, we designed a comprehensive and intensive program employing a variety of teaching methods. We also required participation and delivered the curriculum during a rotation with significant protected teaching time, to facilitate attendance and meaningful resident participation.

In this preliminary evaluation of our curriculum, we found that participation increased interns' sense of responsibility towards and feelings of confidence in treating patients with SUDs, but did not improve upon already positive attitudes towards drug users and their treatment. Because resident attitudes were positive at the start, it may have been difficult (and perhaps unnecessary) to significantly improve them.

Despite the strengths of our curriculum, there are important limitations to this evaluation. We were not able to measure the actual impact of the curriculum on resident skills or clinical practice. Our post test was administered at the close of the curriculum, which limits conclusions about the durability of the curriculum. Only 75% of participating residents completed both pre-and post-tests. Finally, we did not have a control group.

In summary, we designed, implemented, and evaluated a comprehensive SUD curriculum for interns. Our curriculum exposes first year residents to information that is necessary to the care of patients with SUDs, and gives them opportunities to gain related skills. Following participation, the interns reported an increase in sense of responsibility and competence in performing essential tasks related to SUDs, factors associated with improvements in residents' screening, treatment and referral practices[7]. Because all internists treat patients with SUDs, it is critical that Internal Medicine residents become competent in the skills needed to screen, counsel, refer, and coordinate care for patients with these disorders, as well as managing their sequelae. Our comprehensive program, which combines didactic and experiential strategies, can provide a model for comprehensive residency education in SUDs.

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Table

Residents' self assessed responsibility, confidence, competence and interest in caring for drug users

Variable	Residents with Positive Response, Before N (%)	Residents with Positive Response, After N (%)	P-value
How responsible do you feel for:			
Screening for drug problems	51 (88)	50 (86)	NS
Counseling about drug problems	43 (74)	52 (90)	0.01
How confident are you in your skills at:			
Discussing drugs of abuse	30 (52)	42 (72)	0.05
Discussing drug treatment options	3 (5)	30 (52)	<0.001
Counseling patients about drug problems	10 (17)	33 (57)	<0.001
Initiating change in patients' drug use	11 (19)	30 (52)	<0.001
How competent and interested are you in:			
Using structured alcohol screening tools			
Competence	12 (21)	20 (34)	NS
Interest	18 (32)	28 (49)	<0.05
Detecting and assessing clinical manifestations of drug and alcohol use			
Competence	7 (12)	17 (29)	<0.05
Interest	23(40)	29 (50)	NS
Using "stages of change" model to assess patient motivation and guiding intervention			
Competence	5 (9)	19 (33)	<0.001
Interest	21 (37)	23 (40)	NS
Knowledge and ability to refer to 12 step programs for SUD treatment			
Competence	5 (9)	25 (43)	<0.001
Interest	18 (32)	28 (49)	NS
Understanding personal experiences of addicted individuals in trying to be sober			
Competence	7 (12)	23 (40)	<0.001
Interest	27 (47)	32 (55)	NS

For residents' sense of responsibility and confidence, responses were on a 1 – 5 scale where: 1=not at all responsible/confident, and 5=very responsible/confident. We report the proportion of residents who responded positively (4 or 5 versus all others). For residents' competence and interest variables, responses were on a 1 – 10 scale where 1-3= not very competent/interested, 4-7=moderately competent/interested, and 8-10=very competent/interested. We report proportion of residents who responded positively (8-10 versus all others).