

Screening, Brief Intervention, Referral to Treatment (SBIRT), and Motivational Interviewing for PGY-1 Medical Residents

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Abstract

Background Screening, brief intervention, and referral to treatment (SBIRT) for alcohol use in primary care—often using motivational interviewing (MI)—is an effective preventive service. Medical residency programs have begun offering training in these areas, but little research has been conducted to examine the impact of SBIRT/MI training length on residents' satisfaction, affect, and behavioral intentions.

Objective We measured residents' satisfaction with their training in addition to variables shown in previous research to predict medical professionals' intention to perform SBIRT.

Methods This study focused on 2 SBIRT/MI training structures: a 4- to 6-hour training using didactic, experiential, and interactive methods and a brief 1-hour session explaining the same principles in a noninteractive format. Immediately following each training intervention, participating residents from

internal medicine (IM), pediatrics (Peds), medicine-pediatrics (IM-Peds), and emergency medicine (EM) programs completed a 22-item instrument derived from established questionnaires; responses to each item were dichotomized, and comparisons were conducted between the training groups using Fisher exact test.

Results Of 80 participating residents, 59 IM, Peds, and IM-Peds residents completed the longer training, and 21 EM residents completed the shorter training. All participating residents reported high levels of satisfaction, although EM residents were comparatively less satisfied with their shorter training session.

Conclusions Both SBIRT/MI training structures were feasible and were accepted by learners, although the 2 groups' perceptions of the training differed. Future research into the underlying causes of these differences may be useful to the application of SBIRT/MI training during residency.

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Introduction

Screening, brief intervention, and referral to treatment (SBIRT) for alcohol use has been shown to reduce alcohol consumption,^{1,2} provide cost-effective treatment,^{3,4} and improve general and mental health.⁵ In the United States, most adults seek primary care services annually,⁶ and prevalence rates for risky, problem, or dependent alcohol use exceed 30% of adult primary care patients.⁷ Failure to address that can result in deleterious health effects⁸ as well as increased health care costs.^{9,10} Experts have asserted the importance of screening and alcohol abuse management in these settings,¹¹ yet there is a lack of available training, and clinician self-efficacy is low in this area.¹²

A core component of SBIRT is motivational interviewing (MI),¹³ which generates and sustains behavior change.¹⁴ However, researchers have identified “resistance or ambivalence” to SBIRT/MI training among medical residents.¹⁵ One possible cause of this resistance may be residents' intensive workload and work hour restrictions.^{16–18} Most counseling curricula for medical students and residents involve less than 8 hours of training.¹⁹ Further, many recent MI trainings for medical residents have

focused only on client-centered OARS (open-ended questions, affirmations, reflections, and summaries),²⁰ 1 of several core skills that make up MI,^{21,22} excluding other critical concepts. Even then, relatively short (approximately 3-hour) SBIRT/MI trainings can be perceived to be an imposition.²³

Although research has examined residents' satisfaction with SBIRT/MI trainings and perceptions of such trainings, variance in these outcomes is not well understood. Understanding the impact of factors like training length on such constructs will help residency directors and other educators working to build SBIRT and MI into their residency programs.

This brief report takes an initial step toward filling this gap in knowledge by providing a description and retrospective analysis of administrative data collected from 2 distinct face-to-face SBIRT/MI training structures offered to internal medicine (IM), pediatrics (PEDS), medicine-pediatrics (IM-PEDS), and emergency medicine (EM) residents.

Methods

Setting and Participants

Data were collected at Indiana University School of Medicine during 2012–2013 from 80 postgraduate year (PGY)-1 IM, PEDS, IM-PEDS, and EM residents who attended a face-to-face SBIRT/MI training session. All PGY-1 residents in those programs were required to attend a training session.

Educational Interventions

This report examines 2 types of SBIRT/MI training. Training 1 was offered to IM, PEDS, and IM-PEDS residents in sessions ranging from 4 to 6 hours. The training was multimedia-driven, and used didactic, experiential, and interactive methods, including role play and real play to cover the spirit, principles, and microskills of MI. Training 2 was offered to EM residents who only had 1 hour of availability. It consisted of a conceptual overview of the spirit, principles, and microskills of MI. Both trainings were conducted by the same licensed clinical social worker who was certified by the Motivational Interviewing Network of Trainers.²⁴ The only cost associated with the trainings outside of the initial curriculum development was the trainer's time (\$37 per hour) to deliver the interventions.

Outcome Measures

After each training session, residents were asked to complete a survey designed to support programmatic improvement. All trained residents voluntarily completed the survey (100% response rate). Survey responses were

deidentified and entered into an SPSS versions 19 to 21 (IBM Corp) database. The survey contained items measuring sex, ethnicity, race, and the residency program (TABLE 1); training satisfaction; training perceptions; and items moderating or measuring behavioral intentions to perform SBIRT (TABLE 2). The sociodemographic items and questions 1 through 16 were taken from Substance Abuse and Mental Health Services Administration's Customer Satisfaction Tool from the Center for Substance Abuse Treatment.²⁵ Questions 17 through 22 were taken from previous research into the variables that predict the performance of screening and intervention behaviors of medical professionals and were previously tested with respondents from multiple medical specialties.²⁶ All questions were measured using Likert scales, with 1 as strongly agree, very satisfied, or very likely; 2 as agree, satisfied, or likely; 3 as a neutral value; 4 as disagree, unsatisfied, or unlikely; and 5 as strongly disagree, very unsatisfied, or very unlikely.

Analyses

Because the mean response value for most items was between a 1 and a 2 with a standard deviation less than 1, we dichotomized responses to each question (1, strongly agree, very satisfied, or very likely; 2, any other response) to obtain a clearer picture of variability. In addition, we performed supplemental analyses using 2×2 contingency tables to measure differences between the 2 groups, which were assessed using the Fisher exact test, a more conservative alternative to the χ^2 test that is appropriate when some expected values for cells fall below critical values.²⁷

These data analyses were considered "exempt" by the Indiana University Institutional Review Board.

Results

TABLE 1 contains descriptive data sorted by training type. Compared with residents who attended training 1, those who attended training 2 were more likely to be white and were more likely to have received previous SBIRT training. No significant differences were observed in terms of sex or ethnicity.

TABLE 2 contains results of the survey by training type. Residents who attended the longer training were more frequently satisfied (44.7% to 49.8% more residents in training 1 were very satisfied, $P < .001$). We also observed significant differences between the 2 groups in terms of the belief that the training enhanced skills in MI (43.3% more residents in training 1 strongly agreed, $P = .001$), the belief that participants would use the information gained (39.2% more residents in training 1 strongly agreed, $P = .004$), and the intention to recommend the training to a colleague

TABLE 1 DESCRIPTION OF THE SAMPLE

Characteristics	Training 1 (n = 59), No. (%)	Training 2 (n = 21), No. (%)	Total (n = 80), No. (%)
Sex			
Male	29 (49.2)	12 (57.1)	41 (51.3)
Female	30 (50.8)	9 (42.9)	39 (48.8)
Ethnicity			
Hispanic/Latino	2 (3.4)	0 (0)	2 (2.5)
Non-Hispanic/Latino	57 (96.6)	21 (100)	78 (97.5)
Race ^a (training 1, n = 58; total, n = 79)			
Black or African	2 (3.4)	2 (9.5)	4 (5.1)
Asian	17 (29.3)	0 (0)	17 (21.5)
White	38 (65.5)	19 (90.5)	57 (72.2)
Native Hawaiian/Pacific Islander	1 (1.7)	0 (0)	1 (1.3)
Residency program ^a			
Internal medicine	37 (62.7)	0 (0)	37 (46.3)
Internal medicine-pediatrics	9 (15.3)	0 (0)	9 (11.3)
Emergency medicine	0 (0)	21 (100)	21 (26.3)
Pediatrics	13 (22)	0 (0)	13 (16.3)
Training in SBIRT as medical student ^a (training 1, n = 58; total, n = 79)			
Yes	41 (70.7)	21 (100)	62 (78.5)
No	17 (29.3)	0 (0)	17 (21.5)

Abbreviation: SBIRT, Screening, brief intervention, referral to treatment.

^aSignificant differences between training groups observed using Fisher exact test, $P < .05$.

(41.3% more residents in training 1 strongly agreed, $P = .001$).

Finally, significant differences were observed regarding the instructor's preparation (21.4% more residents in training 1 strongly agreed, $P = .042$), and the expectation that the training would benefit their patients (26.0% more residents in training 1 strongly agreed, $P = .047$). No significant differences were observed for the other 13 items.

Discussion

We found no differences were observed in terms of likelihood to perform SBIRT between residents attending training 1 and training 2. Residents who attended training 1 reported higher levels of satisfaction, perceptions of the instructor's preparedness, and attitudes/expectancies related to the training.

Satisfaction, an effective response to education,^{28,29} and perception of the instructor's preparedness,³⁰ are key

evaluation measures used by similar SBIRT/MI residency curricula.^{23,31} The values reported in this study correspond to those observed by other SBIRT/MI residency training programs.^{32,33} Residents' satisfaction with SBIRT/MI training is important.^{34,35} Although prior research implies that shorter MI trainings may produce higher levels of resident satisfaction,^{16,23} our results indicate generally high levels of satisfaction with both trainings, while highlighting differences in satisfaction between the trainings. However, it is unclear which variables contributed to the variance between training types, which differed for residency program, race, prior experience with SBIRT, length, and structure, when the trainer and core curriculum were held constant.

No significant differences were observed between the trainings for variables 17 through 22, which predict the performance of SBIRT/MI. However, because behaviors and skills were not tested (eg, standardized patient examinations), speculation as to residents' ability to

TABLE 2 COMPARISON OF TRAINING LENGTHS

TABLE 2	COMPARISON OF TRAINING LENGTHS			
Question ^a	4–6 h Training (n = 59), No. (%)	1 h Training (n = 21), No. (%)	χ^2	P Value
	% Very Satisfied			
1. How satisfied are you with the overall quality of the training? ^b	35 (59.3)	2 (9.5)	15.45	< .001
2. How satisfied are you with the quality of the instruction? ^b	45 (76.3)	6 (28.6)	15.25	< .001
3. How satisfied are you with the quality of the training materials? ^b	32 (54.2)	2 (9.5)	12.67	< .001
4. Overall, how satisfied are you with your training experience? ^b	35 (59.3)	2 (9.5)	15.45	< .001
	% Strongly Agree			
5. The training class was well organized.	36 (61.0)	8 (38.1)	3.29	.08
6. The material presented in this class will be useful to me in dealing with substance abuse.	35 (59.3)	8 (38.1)	2.81	.13
7. The instructor was knowledgeable about the subject matter.	52 (88.1)	15 (71.4)	3.18	.09
8. The instructor was prepared for the course. ^c	52 (88.1)	14 (66.7)	4.94	.042
9. The instructor was receptive to participant comments and questions.	51 (86.4)	15 (71.4)	2.42	.18
10. I am currently effective when working in this topic area.	14 (23.7)	1 (4.8)	3.66	.10
11. The training enhanced my skills in this topic area. ^d	34 (57.6)	3 (14.3)	11.70	.001
12. The training was relevant to my career.	40 (67.8)	13 (61.9)	0.24	.79
13. I expect to use the information gained from this training. ^d	40 (67.8)	6 (28.6)	9.75	.004
14. I expect this training to benefit my patients. ^c	35 (59.3)	7 (33.3)	4.20	.047
15. This training was relevant to substance abuse treatment.	38 (64.4)	14 (66.7)	0.04	> .99
16. I would recommend this training to a colleague. ^d	30 (50.8)	2 (9.5)	11.02	.001
17. I am comfortable asking about a patient's substance use patterns.	25 (42.4)	4 (19.0)	3.65	.07
18. Given adequate information and training, primary care practitioners can help patients reduce their alcohol consumption.	31 (52.5)	10 (47.6)	0.15	.80
19. I feel confident asking follow-up questions about a patient's pattern of substance use.	24 (40.7)	6 (28.6)	0.97	.43
20. I feel confident stating medical concerns about a patient's drinking pattern and related health risks.	27 (45.8)	8 (38.1)	0.37	.61
	% Very Likely			
21. On average, how likely is it in the next 12 mo that you will ask patients who are current drinkers about their alcohol consumption patterns?	46 (78.0)	19 (90.5)	1.59	.33
22. On average, how likely is it in the next 12 mo that you will state to patients your medical concerns about their drinking patterns or related health risks?	45 (76.3)	17 (81.0)	0.20	.77

^a Note: All significant items are **bolded**.

^b $P < .001$.

^c $P < .05$.

^d $P < .01$.

perform skills or behaviors learned in these sessions is not possible.

This report had several limitations. We used Fisher exact test because our sample size was small. This may have

had the effect of suggesting that some moderate differences between the training groups were nonsignificant. Residents were from 3 separate medical specialties. Although SBIRT trainings have been tested in EM,³⁶ IM,¹⁶ and PEDS³⁷

programs with similar results, residents from each specialty may have interpreted the survey differently. Further, because all residents were from a single site, these results may not be generalizable.

Our data suggest that 1 or more measured variables may have affected residents' satisfaction with our training. A randomized, controlled trial should be conducted in 1 or more residency programs to ascertain the true effect of training length, residency program, and other variables on residents' satisfaction and performance of desired SBIRT/MI behaviors.

Conclusion

This brief report suggests that both a 4- to 6-hour SBIRT/MI training for IM, PEDS, and IM-PEDS residents and a 1-hour SBIRT/MI training for EM residents were feasible to conduct and produced high levels of participant satisfaction. Some differences were observed between the groups' perceptions of the trainings, and future research into the underlying causes of these differences may be useful to program directors.

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