



Impact of a Tobacco CE Program for Indiana Healthcare Providers

S. HARVEY*, L.M. ROMITO DDS MS

(Indiana University-Purdue University of Indianapolis, Indiana University School of Dentistry)

ABSTRACT

Purpose: To assess an evidence-based continuing education (CE) program for Indiana healthcare practitioners focusing on tobacco use and dependence which emphasized team-based tobacco dependence treatment. Methods: Program impact was assessed by changes in participants' self-reported knowledge and clinical application of course concepts and strategies via a 26-item immediate post-CE survey and a 19-item 3-month follow-up survey. Surveys included multiple-choice and 5-point Likert-style scaled items. The three month follow-up surveys were mailed or delivered electronically to participants; non-responders were sent two reminders. De-identified data were analyzed in aggregate using descriptive statistics, Spearman correlation coefficients, and Mantel-Haenszel chi-square tests. Results: CE programs were held in Tell City, Madison, Lafayette, Goshen, Richmond and Vincennes with a total of 252 participants. Initial survey response was 98.4% (n=248): dental assistants (2%), dental hygienists (83%), dentists (8.5%), and other healthcare professionals (6.45%). Overall, participants reported less knowledge before than immediately after (p<.0001) and 3 months after (p<.0001) the CE program. Reported knowledge at 3 months was less than immediately after the program (p<.002). Participants planned to apply CE program communication strategies (99%), implement brief tobacco intervention strategies (85%), and refer patients to local cessation resources (95%) or the Indiana Quitline (96%). Response rate for the 3 month survey was 54% (n=136). Respondents reported currently playing an active role in team-based tobacco cessation (48%, 78), applying CE communication strategies (85%,109), and implementing brief tobacco interventions (71%,90). Sixty-eight respondents reported referring patients to local counselors; eighty-three referred to the Indiana Quitline. **Conclusion: Tobacco dependence CE may be beneficial to enhance health care practitioners' knowledge and willingness to integrate tobacco interventions in their healthcare settings. However, this does not assure that they will change their practice behaviors by utilizing the learned concepts and tobacco interventions with patients.** Funded by the Indiana State Dept. of Health.

INTRODUCTION

Approximately 20% of the U.S. population uses tobacco¹ and each day nearly 4000 U.S. youth smoke their first cigarette. Despite these statistics nearly 70% of all smokers desire to quit. Oral healthcare providers have a vital role to play in helping tobacco users quit. Nevertheless, although dental office tobacco prevention and treatment efforts can increase tobacco abstinence, they are underutilized.^{2,3} Both a lack of confidence and intervention skills training have been often cited by practitioners as reasons for not providing tobacco interventions.^{4,5} The CE program described here sought to enhance Indiana healthcare practitioners' understanding of tobacco dependence and treatment and encourage them to provide tobacco interventions. This project was aimed to 1) assess the effectiveness of the tobacco education program at enhancing attendees' knowledge of tobacco's addictive nature and associated health effects; pharmaco-therapeutic and behavioral tobacco interventions; local and statewide tobacco cessation referral resources; and the components and protocols for establishing a team-based approach for tobacco interventions in the dental office, and 2) obtain information on the extent to which program participants' integrated course concepts and strategies into their clinical practice.

METHODS

- The study was approved by the Indiana University IRB (#1208009443).
- Based upon county tobacco use rates, 6 Indiana sites (Goshen, Lafayette, Madison, Richmond, Tell City, Vincennes) were chosen for the 7 hr. CE program.
- A total of 252 people attended the CE programs. They were informed of the study and asked to participate in the confidential surveys.
- The 26-item immediate post-program survey assessed changes in participants' self-reported knowledge before and after the CE, clinical tobacco intervention activities before the course, and planned changes as a result of the CE.
- Survey response formats included multiple-choice & 5-point scaled items.
- All attendees (N=252) were mailed a 19-item 3 month follow-up survey, cover letter, study information sheet, and SASE; non-responders were sent 2 reminders
- De-identified survey data were reviewed, coded and entered into database for analyses.
- Data analyses included descriptive statistics, Cochran-Mantel-Haenszel, Mantel-Haenszel chi-square tests and Spearman correlation coefficients.

RESULTS

- Initial survey response was 98.4% (n=248): dental assistants (2%); dental hygienists (83%), dentists (8.5%), and other healthcare professionals (6.45%). Response rate for the 3 month survey was 54% (n=136).
- Between time comparisons showed less knowledge before than immediately after (p<.0001, all Q) and 3 months after (p<.0001, all Q); immediately after showed more knowledge than 3 months after for all Q (Q1:p=.0019;Q2-Q5:p<.0001; Q6:p=.0002; Q7:p=.0007; Q9:p=.0005) except Q8 (p=0.06).

Table 1: Clinicians' Self-Reported Tobacco Dependence and Treatment Knowledge Before, Immediately After, and 3 Mos. After the Tobacco CE Program

Time	Question	Total N	Great (1)	Moderate (2)	Slight (3)	None (4)	Mean (SD)
Before	Q1: Knowledge of oral effects of tobacco	248	46 (19%)	165 (67%)	37 (15%)	0 (0%)	2.0 (0.6)
	Q2: Clear understanding nicotine addiction	248	23 (9%)	126 (51%)	98 (40%)	1 (0%)	2.3 (0.6)
	Q3: Knowledge of pharm of NRT, bupropion and varenicline	247	7 (3%)	49 (20%)	158 (64%)	33 (13%)	2.9 (0.7)
	Q4: Knowledge of NRT, bupropion, varenicline dosing requirements	248	6 (2%)	27 (11%)	86 (35%)	129 (52%)	3.4 (0.8)
	Q5: Knowledge of adverse effects of NRT, bupropion, varenicline	246	7 (3%)	30 (12%)	116 (47%)	93 (38%)	3.2 (0.8)
	Q6: Knowledge of communication techniques for tobacco cessation	247	10 (4%)	85 (34%)	135 (55%)	17 (7%)	2.6 (0.7)
	Q7: Knowledge of selection of community and state resources	247	9 (4%)	35 (14%)	143 (58%)	60 (24%)	3.0 (0.7)
	Q8: Clear understanding ISDH local community resources services	246	5 (2%)	25 (10%)	126 (51%)	90 (37%)	3.2 (0.7)
	Q9: Clear understanding of Quitline service	246	12 (5%)	26 (11%)	101 (41%)	107 (43%)	3.2 (0.8)
Immediate	Q1: Knowledge of oral effects of tobacco	247	211 (85%)	35 (14%)	1 (0%)	0 (0%)	1.1 (0.4)
	Q2: Clear understanding nicotine addiction	248	203 (82%)	44 (18%)	1 (0%)	0 (0%)	1.2 (0.4)
	Q3: Knowledge of pharm of NRT, bupropion, and varenicline	247	149 (60%)	91 (37%)	7 (3%)	0 (0%)	1.4 (0.5)
	Q4: Knowledge of NRT, bupropion, varenicline dosing requirements	247	129 (52%)	106 (43%)	12 (5%)	0 (0%)	1.5 (0.6)
	Q5: Knowledge of adverse effects of NRT, bupropion, varenicline	247	135 (55%)	103 (42%)	9 (4%)	0 (0%)	1.5 (0.6)
	Q6: Knowledge of communication techniques for tobacco cessation	246	183 (74%)	60 (24%)	3 (1%)	0 (0%)	1.3 (0.5)
	Q7: Knowledge of selection of community and state resources	247	148 (60%)	91 (37%)	8 (3%)	0 (0%)	1.4 (0.6)
	Q8: Clear understanding ISDH local community resources services	244	120 (49%)	105 (43%)	18 (7%)	1 (0%)	1.6 (0.6)
	Q9: Clear understanding of Quitline service	245	170 (69%)	67 (27%)	8 (3%)	0 (0%)	1.3 (0.5)
3 month	Q1: Knowledge of oral effects of tobacco	136	90 (66%)	44 (32%)	2 (1%)	0 (0%)	1.4 (0.5)
	Q2: Clear understanding nicotine addiction	135	75 (56%)	58 (43%)	2 (1%)	0 (0%)	1.5 (0.5)
	Q3: Knowledge of pharm of NRT, bupropion, and varenicline	136	21 (15%)	83 (61%)	32 (24%)	0 (0%)	2.1 (0.6)
	Q4: Knowledge of NRT, bupropion, varenicline dosing requirements	136	17 (13%)	60 (44%)	49 (36%)	10 (7%)	2.4 (0.8)
	Q5: Knowledge of adverse effects of NRT, bupropion, varenicline	136	18 (13%)	73 (54%)	40 (29%)	5 (4%)	2.2 (0.7)
	Q6: Knowledge of communication techniques for tobacco cessation	136	71 (52%)	55 (40%)	10 (7%)	0 (0%)	1.6 (0.6)
	Q7: Knowledge of selection of community and state resources	136	56 (41%)	60 (44%)	20 (15%)	0 (0%)	1.7 (0.7)
	Q8: Clear understanding ISDH local community resources services	135	56 (41%)	56 (41%)	20 (15%)	3 (2%)	1.8 (0.8)
	Q9: Clear understanding of Quitline service	134	76 (57%)	42 (31%)	14 (10%)	2 (1%)	1.6 (0.7)

Figure 1: Clinicians' Self-Reported Intention to Implement Tobacco Intervention Behaviors at the Time of the Tobacco CE Program (p<.0001)

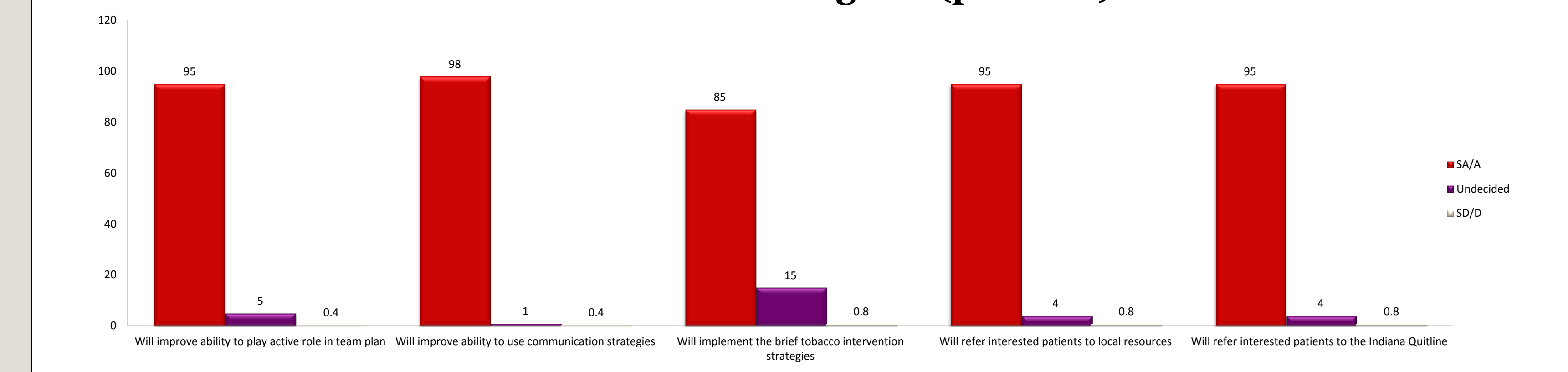
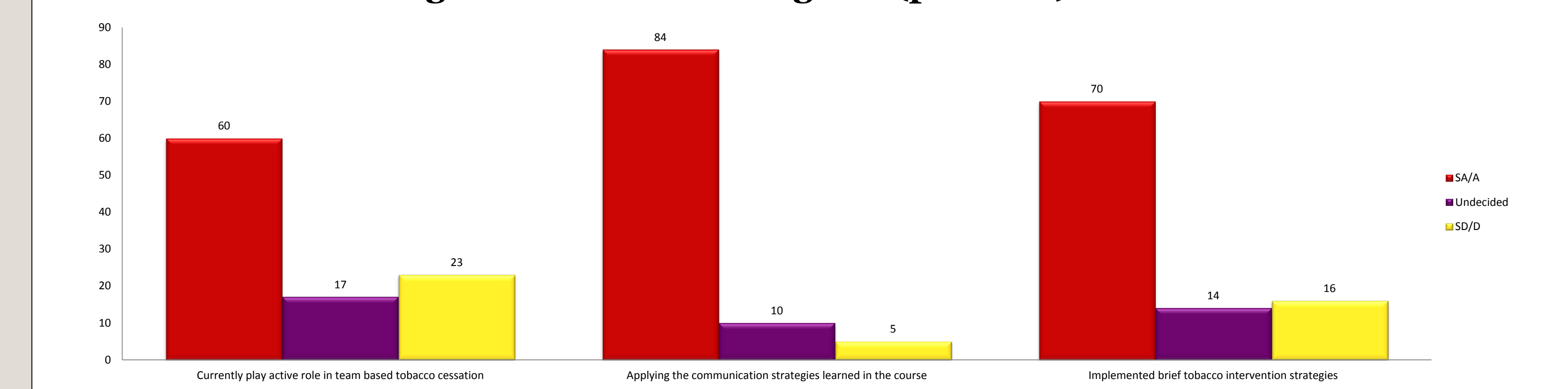


Figure 2: Clinicians' Self-Reported Implementation of Tobacco Intervention Behaviors at 3 Months Following the Tobacco CE Program (p<.0001)



CE Course Brochure

RESULTS

- There were no significant associations between the plans to refer to local resources (r=.16) and the Indiana Quitline (r=.02) and the number of people referred at 3 months.
- At 3 months 120 of 130 (93%) respondents reported referring 5 or fewer patients to local resources and 114 of 133 (88%) referred 5 or fewer people to the Quitline.
- Immediate to 3 months comparisons showed increases for providing any resources (p<.0001), treatment area literature (p=0.0173), distribution directly to patient (p<.0001), patient acceptance as a barrier (p=0.0004), and Rx/recommendation of NRT gum (p=0.0082), lozenge (p=0.0009), and patch (p=0.0431).
- Immediate to 3 months comparisons showed decreases for locating and obtaining resources as a barrier (p=0.0003) and Rx/recommendation of varenicline (p=0.0330).

CONCLUSIONS

Continuing education on tobacco use, dependence and treatment may be beneficial in enhancing health care practitioners' knowledge and willingness to integrate tobacco interventions in their healthcare settings. However, this does not assure that they will change their practice behaviors by utilizing the learned concepts and tobacco interventions with patients.

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REFERENCES

- Centers for Disease Control and Prevention. Current Cigarette Smoking Among Adults—United States, 2011. *Morbidity and Mortality Weekly Report*. 2012; 61(44):889-94.
- Carr AB, Ebbert J. Interventions for tobacco cessation in the dental setting. *Cochrane Database of Systematic Reviews* 2012, Issue 6. Art No.: CD005084. DOI: 10.1002/14651858.Cd005084.pub3.
- Needleman IG, Binnie VI, Ainamo A, Carr AB, Fundak A, Koerber A, et al. Improving the effectiveness of tobacco use cessation (TUC). *Int Dent J* 2010;60(1):50-9
- Brame JL et al. A randomized controlled trial of the effect of standardized patient scenarios on dental hygiene students' confidence in providing tobacco dependence counseling. *JDH* 2012; 86(4):282-291.
- McCartan B, McCreary C, Healy C. Attitudes of Irish Dental, Dental Hygiene, and Dental Nursing Students and Newly Qualified Practitioners to Tobacco Use Cessation: A National Survey. *Eur J Dent Educ* 2008; 7:17-22.