

Quality Improvement, Clinician Attitudes, and Referrals to Tobacco Treatment Counseling Programs

Karma Cassidy RN., Ph.D. • Ellen J. Hahn, RN. Ph.D. • Mary Kay Rayens, Ph.D.
University of Kentucky • College of Nursing

Background & Significance

- The 2008 Public Health Service Clinical Practice guideline recommends adoption of a chronic care approach to tobacco treatment and changes in the health care system to more fully integrate tobacco treatment into routine patient care (Fiore, et al., 2008).
 - Patient referrals to tobacco treatment counseling extend the reach of acute interventions by providing on-going counseling and support for cessation.
 - Only 10% of physicians report referring their patients to tobacco treatment experts for counseling, and 26% to group counseling programs “often or always”.
 - Receiving individual tobacco treatment counseling by a trained therapist significantly increases the odds of cessation compared to brief advice only.
 - Of the tobacco users who attempted to quit in 2000, only 1.3% of them participated in tobacco treatment counseling to help them quit.

Purpose

- To determine differences in frequency of clinician referrals by county-level smoker participation in tobacco treatment counseling programs.
- To examine relationships between processes that facilitate referrals to tobacco treatment counseling, clinician attitudes, county-level smoker participation in cessation programs and clinician self-reported frequency of referrals to tobacco treatment counseling programs.
- Determine the extent to which processes that facilitate referrals, clinician attitudes, and smoker participation in counseling programs are predictive of referrals to tobacco treatment counseling programs.
- To determine whether clinician perceived autonomous motivation mediates the relationship between health system processes that facilitate referrals and frequency of referrals.

Methods

- Self-administered surveys were sent by mail to obtain cross-sectional, descriptive, correlational data.
- Study participants were primary care physicians, doctors of osteopathy, nurse practitioners and physician assistants (clinicians) practicing in the Commonwealth of Kentucky (N=197).
- Randomized block sampling design was used to control for extraneous variables influencing participation in tobacco treatment counseling programs.
- Three blocks of low, medium and high county level adult participation in cessation counseling programs (per 10,000 smokers) were created.
- Five hundred clinicians were invited to participate and were randomly selected within the three blocks of county participation in which their practice was located such that 166 or 167 were chosen from each of the three blocks using a random sampling scheme.

Measures

- To determine health system processes that facilitate referrals 13 yes/no items for example, “Do you have a written protocol or guideline for referring patients to counseling programs?”
- Clinician attitudes assessed using six subscales with Likert items anchored by “strongly disagree” (1) and “strongly agree” (5).
 - Attitudes toward cessation counseling* ($\alpha = 0.74$) assessed clinician perceptions of patients’ willingness to quit, perceived self-efficacy for counseling, perceived efficacy for tobacco treatment, barriers of competing demands and perception of availability of resources (Meredith, Yano, Hickey, & Sherman, 2005).
 - Attitudes toward referrals to counseling programs* assessed perceived barriers for patient participation ($\alpha=0.71$), perceived efficacy of tobacco counseling programs ($\alpha = .60$), and willingness of patients to participate in counseling ($\alpha = .71$).
 - Perceived Autonomous Motivation* ($\alpha=0.68$) assessed the extent to which clinicians have internalized the value of tobacco treatment and regard it as personally important (Williams, et al., 2003). For example, “Assisting my patients to quit smoking is personally important to me in my practice”
 - Perceived autonomy support* assessed the extent to which clinicians perceive that assisting patients with referrals is supported by the health system.

Table 1: Analysis of Variance for Referrals by County Participation in Tobacco Treatment Counseling Programs

Source	N	Mean	Standard deviation
High Participation	72	6.60	.24
Medium Participation	62	5.61	.21
Low Participation	62	5.74	.19

Table 2: Pearson Correlations between Referrals, Processes that Facilitate Referrals, Clinician Attitudes and County-level Participation in Counseling Programs

	Referrals	Processes	Autonomy Support	Autonomous Motivation	Attitudes toward Cessation Counseling	Barriers	Perceived efficacy of counseling programs	Perceived willingness of patients to participate
Referrals								
Processes	.37**							
Autonomy Support	.31**	.43**						
Autonomous Motivation	.31**	.20**	.30**					
Attitudes toward Cessation Counseling	.39**	.20*	.30**	.52**				
Barriers	-.40**	-.28**	-.39**	-.23**	-.42**			
Perceived efficacy of counseling programs	.42**	.20*	.14*	.16*	.34**	-.40**		
Perceived willingness of patients to participate	.30**	.12	.10	.23**	.36**	-.18*	.40**	
Participation	.25**	.13	-.02	.11	.10	-.24**	.10	.08

*p<.05 (2-tailed)
** p<.01 (2-tailed)

Table 3: Summary of Regression Analysis for Variables predicting Frequency of Referrals to counseling programs (N=196)

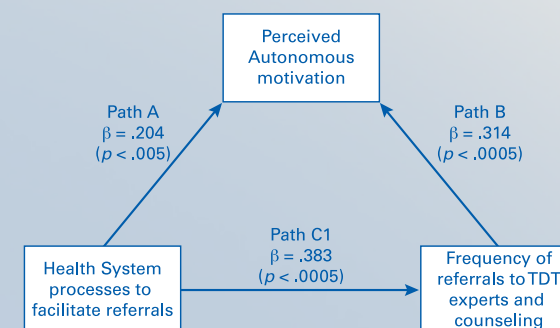
Variable	Standardized Beta coefficients	t-test	Sig.
Patient care hours/week	.032	.49	.62
Number of years in practice	-.045	-.73	.46
Ever used tobacco in past 30 days	.17	.27	.79
High participation in programs	.130	1.7	.09
Medium participation in programs	-.064	-.87	.38
Processes that facilitate referrals	.189*	2.7	.008
Perceived autonomy support	.100	1.1	.255
Perceived autonomous motivation	.084	1.1	.26
Attitudes toward tobacco cessation	.108	1.3	.18
Barriers for referrals	-.094	-1.2	.23
Perceived efficacy of counseling Programs	.251*	3.5	.001
Perceived willingness of patients to attend counseling programs	.076	1.1	.27

$R^2 = .41$
*p<.05

Table 4: Mediation Model

Predictor	Mediator	Dependent Variable	Standardized Beta	P value
Processes	Perceived Autonomous Motivation		.204	< .005
Processes		Frequency of Referrals	.383	< .0005
	Perceived Autonomous Motivation	Frequency of Referrals	.314	< .0005
Processes	Perceived Autonomous Motivation	Frequency of Referrals	.333 (processes) .246 (perceived AM)	< .0005 (processes) < .0005 (perceived AM)

Figure 1: Model for the Mediation of Autonomous Motivation in the Relationship between Processes that Facilitate Referrals and Frequency of Referrals



Results

- Counties with high smoker participation in tobacco treatment counseling programs had higher frequency of referrals from clinicians compared to medium and low participation (Table 1).
- There was a significant, positive correlation between processes that facilitate referrals and referrals (Table 2). The most frequent processes reported were: “smoking documented on progress records” “availability of patient education materials”, “smoking documented with vital signs”, “tobacco user identification system”, and “brochures from the health department”. Overall, processes were infrequently reported by this sample.

Attitudes most strongly correlated with referrals were perceived efficacy of counseling programs and perceived autonomy support, followed by perceived barriers for counseling, attitudes toward cessation counseling, perceived autonomous motivation, and perceived willingness of patients to participate. There was a significant, positive correlation between smoker participation in cessation programs and frequency of referrals. There was a significant relationship between county-level participation in cessation programs and perceived barriers. Clinicians who practiced in high participating counties perceived low barriers to referrals.
- Processes and perceived efficacy of counseling programs were significant predictors of referrals when controlling for other variables in the model. The model explained 41% ($F(14,165) = 8.0, p < .001$) of the variance in referrals (Table 4). Perceived efficacy of counseling programs made the strongest contribution to the variance in referrals.
- Perceived autonomous motivation did not mediate the relationship between processes and referrals (Figure 1).

Discussion

- Need for greater dissemination of evidence-based information among primary care clinicians about the efficacy of tobacco treatment counseling.
- Primary care practice assistance to implement processes that facilitate referrals,
- Improved patient access to tobacco treatment counseling.
- These objectives could be achieved through improved coordination between local health departments and primary care practices and through state and national policies designed to improve access to prevention

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