Smoking Cessation Programs for Chinese American Smokers: Challenges and Preliminary Findings from Two Randomized Trials

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AANCART Meeting
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Agenda

From Two randomized smoking cessation clinical trials conducted in Northern California:

- Study design and intervention
- Challenges
- Baseline characteristics of Chinese American smokers
- Preliminary findings from each trial
- Future directions

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Background

- Empirical data on effective smoking cessation strategies targeting Chinese American smokers, especially new immigrants, are scarce.
- Almost 70% of Chinese Americans are first generation immigrants with over 90% originating from China (U.S. Department of Homeland Security, 2004) where smoking prevalence among men is high (e.g. Gu et al., 2004), .
- The prevalence rates of smoking ranged from 9.7% among English-speaking Chinese (Chen, Cruz, Unger, & Johnson, 1998) to 34% among Chinese men residing in Chicago (Yu, Chen, Kim, & Abdulrahim, 2002).

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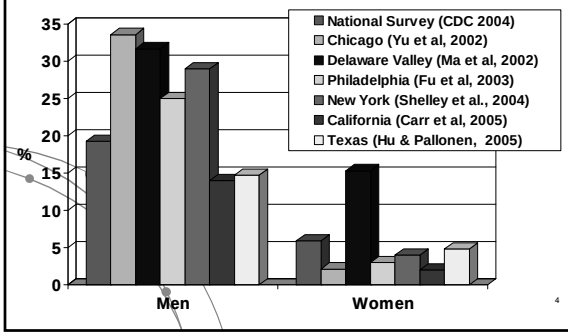
Smoking Prevalence of Chinese Residing in U.S. (published data since 2000)



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CHINESE COMMUNITY SMOKING CESSATION PROJECT

AANCART Pan Asian Council Meeting

December 11, 2006

Supported by the National Heart, Lung and Blood Institute 1 R01 HL69363

Investigators: Candice Wong, Janice Tsoh, Elisa Tong, Bruce Cooper, Neal Benowitz, Sharon Hall

Community Partners: Chinese Community Health Plan, Chinese Community Health Care Association, Chinese Hospital, Chinatown Health Center, Sunset Health Services, Kaiser Permanente Medical Group

Consultants: Fred Blake Hom, Edward Chow, Elena Tinloy, Angela Sun, Lei Chun Fung, Louisa Leung, Gene Lau

Design

5-Year Prospective study:

- To test the efficacy of a multi- omponent, smoking cessation and relapse prevention intervention
- To examine a set of measures (e.g. psychosocial and smoking process) that are associated with smoking cessation

Randomized clinical trial to compare:

Minimal vs. Intensive interventions

Follow-up to assess smoking status:

6 , 12 and 24 month assessments

Inclusion Criteria

- Self identified as Chinese descent
- Adult 18 years and above
- Smoked a cigarette, cigar, or tobacco pipe during 3 months prior to hospitalization
- Resides in San Francisco Bay Area
- Speaks English, Mandarin, or Cantonese
- Not currently engaging in assisted smoking cessation efforts

How effective are smoking cessation interventions?

Self-help manual: OR 1.2 (95% CI 1.01 - 1.51)

Individual counseling: OR 1.7 – 3.0 (95% CI 1.4-2.0)

Telephone counseling: OR 1.2 (95% CI 1.1-1.4)

Nicotine replacement therapy: OR 1.72 (95% CI 1.6 - 1.8)

Multi-component strategies show quit rate > 40%

(USDHHS, 2000), (Silagy, 1999), (Fiore, 1996), (Lancaster, 1999B), (Stead 1999)

Minimal Intervention

- Scripted MD advice
- Nurse/health educator strong message
- *Victory over Smoking* self-help manual
- Smoking cessation medication supplement
- Community resources for smoking cessation programs

Intensive Intervention

- Scripted MD advice
- Nurse/health educator strong message
- *Victory over Smoking* self-help manual
- Smoking cessation medication supplement
- Community resources for smoking cessation
- 45 min counseling and skill-building session
- Nicotine replacement therapy for high-risk patients

Intensive Intervention

- *Victory over Smoking* videotape
- Relaxation audiotape
- Five 15-minutes telephone calls at 2, 7, 21, 45, and 90 days
- For slipper/relapser - one additional intervention phone call

Outcomes

- Smoking status at 6-,12- and 24-months
- Number of quit attempts
- Number of cigarettes smoked/day
- Saliva cotinine level – biochemical verification of abstinence

Enrollment Sources

Name	%
Chinese Hospital	36.8
Kaiser Permanente	22.1
Media	20.5
Chinatown Health Center	8.9
Sunset Health/Ocean Park	8.1
MD offices	4.8
St. Mary/St. Francis/CPMC/SFGH	3.2
Others	1.8

Challenges – An Overview

- Hospitals priorities and requirements
- Staff recruitment issues
- Patient recruitment issues
- Dispensing nicotine replacement therapy
- Cross-cultural issues

Hospitals Priorities and Requirements

- Administrative structures (IRB forms, HIPAA requirements, lack of integration between outpatient and inpatient services, etc);
- No in-hospital smoking cessation program;
- Hospital systems: Admitting, patient relations, IT, QA, nursing, social services, patient education, respiratory, cardiology, pharmacy, chronic disease management…etc.

Staff Recruitment Issues

- Nursing shortage; Bilingual/trilingual requirements
- Few qualified and experienced with interest in research or smoking cessation program
- Unpredictability of patient referrals and short length of stay → flexibility in work schedule, on-calls, nights and weekends;
- Competitive salary and benefits
- Expand personnel to include educators or nurses from abroad

Patient Recruitment Issues

- New HIPAA requirements → on-site patient recruiter employed by each hospital
- Lack of bilingual hospital staff to assist with referrals
- Few Chinese patients → frequent reminders
- Departmental meetings, educational seminars, medical grand rounds
- One on one meeting with Chinese physicians

HIPAA Requirements

- Staff training to be in compliance with HIPAA
- Make appropriate translation of HIPAA patient information
- Modification and translation of consent forms specific to each site
- Seek IRB approval for revised consent forms at all sites

Nicotine Replacement Therapies (NRTs)

- Logistics (Some hospital pharmacies do not stock NRT → ? treatment during hospitalization and discharge medications)
- Insurance coverage for NRT (Co-payments and reimbursements)
- Adjusting NRT protocol and criteria for Chinese patients
- Central pharmacy set-up at Chinese Hospital
- Mail options for patients

Cross Cultural Issues

- Lack of SS# → alternative form of payment
- Low adherence with nicotine replacement therapy ~ 60% agree to use among those eligible for NRT; ~40% reported actual use, ~25% completed full course of treatment
- Notion of "Quit Date" → total abstinence vs. cut down (44% vs. 25%)
- Importance of MD referral → lower than expected refusal rate (< 10%)
- Minimal loss of follow up at 12 month (~ 8%)

Treating Chinese American Smokers with an Expert System

PI: Janice Tsoh

Mentors and Advisors:
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James Prochaska, Joseph Rossi (URI);
David Takeuchi (Washington University)

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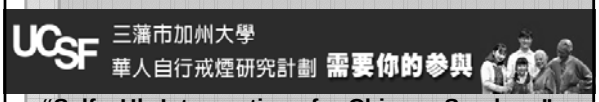

"Self-Help Interventions for Chinese Smokers" 23

Objective

- **This study examined the efficacy of an expert system self-help intervention adapted for Chinese American smokers**

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Expert System Smoking Intervention

- Stage based self-help manual
- Individualized written feedback
  - sections: stage of change, decisional balance (pros and cons), underuse or overuse of different processes, specific strategies, high-risk situations and coping
  - comparisons: normative (general population), and ipsative (person's previous scores)

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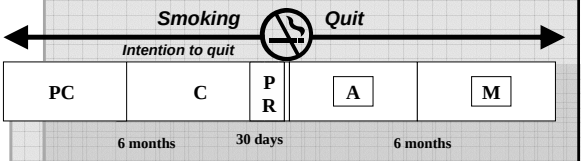
Stages of Change for Smoking Cessation

- Precontemplation (PC)
- Contemplation (C)
- Preparation (PR)
- Action (A)
- Maintenance (M)



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Procedures

- Recruitment involved media advertisements and invitations to subscribers of a health plan and a ethnic commercial website
- Participants were randomly assigned to receive a standard self-help manual or a stage-based expert system intervention after completing baseline assessment by mail
- Expert system intervention based on the Transtheoretical Model, which consisted of a manual and a series of 3 individualized feedback reports at baseline, 3, and 6 months
- All participants were re-assessed at 3, 6, 12 and 18 months

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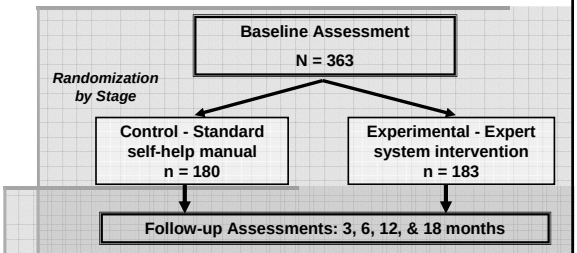
Treating Chinese Smokers with Interactive Expert System

Study Design



•Participants will be paid $20 for baseline and $10 for each follow-up assessment, a bonus $10 for completing all assessments (total up to $70)

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Key Challenges

- **Outreach / Recruitment**
  - ✓ Smokers at various levels of readiness
  - ✓ Outreach channels
  - ✓ Communication by mail/phone
- **Assessment Tools**
  - ✓ Translation issues (countries of origins)
  - ✓ Literacy required to complete questionnaires
  - ✓ Length
- **Intervention Materials**
  - ✓ Communication styles/ formats
  - ✓ Cultural and linguistic appropriateness
    (e.g., trust & credibility; directive; authority vs respect; being singled-out vs specific tailoring)

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Baseline Characteristics

- Combined data from the two clinical trials

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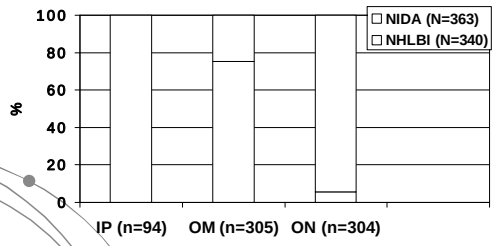
Source of Participants by Health Status at Baseline (N =703)



Note:
a. Participants smoked >=5 cigarettes in the past 7 days were included.
b. Groups: IN = Inpatient/ hospitalized at baseline; OM = outpatient/community with a medical condition; ON = outpatient without a medical condition

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Socio Demographic Profile of Participants by Health Status at Baseline

	IP n= 94	OM n= 305	ON n= 304	Total N= 703
Mean Age, y±SD	65.3±15	53.8±14	37.6±12	48.3±17
Gender, % female	5.3	9.8	18.8	13.1
Birthplace, %				
USA	2.1	6.6	3.9	4.8
Taiwan	1.1	3.9	19.4	10.2
Hong Kong	4.3	16.4	17.4	15.2
Mainland China	85.1	62.3	54.9	62.2
Vietnam	5.3	6.9	1.3	4.3
Mean Years in USA±SD	21.8±17	20.2±14	10.6±8	17.5±13
English Fluency, % "Not at all"	58.5	24.3	6.9	21.3
Language Preference, % Chinese	94.7	87.2	83.9	86.7
Health Care Coverage, % "Yes"	97.4	84.9	64.4	77.1

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Socio Demographic Profile of Participants by Health Status at Baseline (continued)

	IP n= 94	OM n= 305	ON n= 304	Total N= 703
Marital Status, % Married	81.9	78.0	66.4	73.5
Education, %				
Less than high school	50.9	19.7	0.7	13.1
High school, some college	34.5	42.5	37.7	39.4
Bachelors or above	14.5	37.8	61.6	47.4
Employment, % work full/part time	26.6	51.5	65.1	53.9
Income, % below 20K/year	63.8	42.6	29.3	39.7

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Baseline Smoking Behavior among Participants by Health Status

	IP n= 94	OM n= 305	ON n= 304	Total N= 703
Mean age first smoke (yrs)	17.3	18.7	18.9	18.6
Mean years smoke regularly±SD	45.2±16	32.6±14	17.2±11	26.6±16
Mean cigs/day±SD (avg 7 d)	7.3±6	11.7±8	9.5±7	10.2±8
Number of cigs/day				
<5	50.0	24.3	33.6	31.7
6-10	26.6	30.2	31.6	30.3
11-20	23.4	37.4	28.9	31.9
>20	0	8.2	6.0	6.1
At least One 24-hr quit attempt past year, %	29.8	48.5	58.4	50.3

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Quit Smoking Methods Used by Health Status at Baseline

	IP n= 94	OM n= 305	ON n= 304	Total N= 703
Quit Method Used Past Year				
"Cold Turkey"	60.6	67.9	52.0	60.0
Cut down cigarettes	1.1	18.0	41.8	26.0
Nicotine gum/patch/spray	7.7	30.8	22.4	24.0
Counseling/Class	1.1	4.9	5.0	4.4
Buproprion	1.1	3.0	0.7	1.7
Stop Smoking Hot Line	0	1.3	2.0	1.4
Herb/acupuncture	1.1	2.3	0.7	1.4

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Preliminary Findings

from each trial

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Number (%) Self-reported Abstinence at 6-month Follow up Assessment

	In R n=104	Out R n=229	Total N=333
Intensive Arm	28 (54)	32 (27)*	60 (35)
Minimal Arm	27 (52)	18 (16)*	45 (28)
Total	55 (53)	50 (22)	105 (32)

Number (%) Self-reported Abstinence at 12-month Follow up Assessment

	In Pt n=98	Out Pt n=220	Total N=318
Intensive	22 (46)	34 (30)*	56 (35)
Minimal	24 (48)	27 (25)*	51 (33)
Total	46 (47)	61 (28)	107 (34)

Number (%) Loss of Follow up at 12-month Assessment

	In-Pt 31/131	Out-Pt 22/249	Total 53/380
Adverse Event	21 (68)	1 (5)	22 (42)
Consent Withdrawn	2 (2)	6 (27)	8 (15)
Loss of Contact	8 (26)	15 (68)	23 (43)
Overall Attrition Rate	24%	9%	14%

Significant Findings

Compared to in-patient smokers, out-patient smokers:

- Younger age and more acculturated
- Smoked more cigs/day
- Higher nicotine addiction score
- Less confident to stay off cigarette
- Goal of abstinence is to “Slowly Cut Down”

Significant Findings:

Majority of smokers in our study:

- Smoke few cigs/day
- Have medium-high nicotine addiction score
- Displayed highly addicted behavior ...
  - Smoked more in AM
  - Smoked within 30 minutes from awakening

Treating Chinese American Smokers with an Expert System

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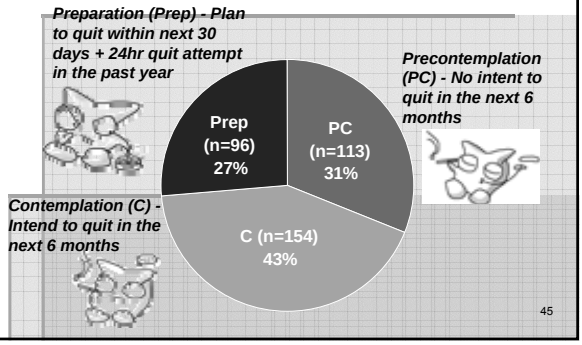
Stage Distribution (N = 363)



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Smoking Outcomes by Treatment Groups

	Control	Expert System	Whole Sample
N	180	183	363
12-month			
7-day abstinence	24.5%	25.8%	25.2%
Observed (n = 307)	21.1%	21.3%	21.2%
Intention-to-treat			
18-month			
7-day abstinence	24.4%	32.9%	28.4%
Observed (n = 301)	21.1%	25.7%	23.4%
Intention-to-treat			

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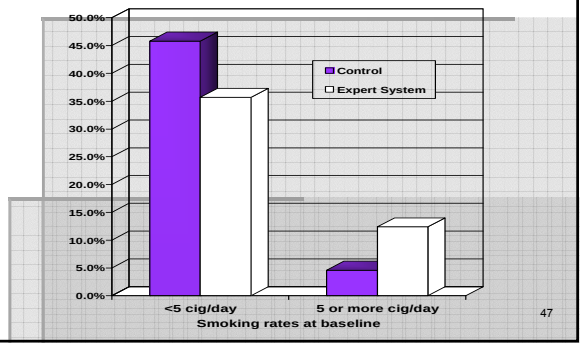
12-Month Abstinence by Treatment Groups and Smoking Rates at Baseline



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Predictors of 12-month Abstinence (N=363)

Variable	Odds Ratio	95% CI	Wald χ^2	p
Expert System (ES)	0.65	0.32 - 1.32	1.41	.24
Smoked>5/d (SMK5)	0.11	0.02 - 0.22	22.12	<.001
ES x SMK5	4.71	1.30 - 17.09	4.09	.02
Preparation	2.98	1.63 - 5.43	9.17	<.001
FTND	0.91	0.77 - 1.06	0.97	.23
Age above 40	0.91	0.54 - 1.96	0.07	.93
Medical Condition	2.13	1.08 – 4.22	4.72	.04

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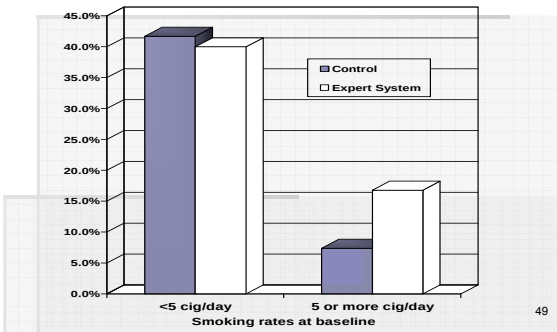
18-Month Abstinence by Treatment Groups and Smoking Rates at Baseline



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Predictors of 18-month Abstinence (N=363)

Variable	Odds Ratio	95% CI	Wald χ^2	p
Expert System (ES)	0.96	0.48 - 1.93	0.01	.92
Smoked>5/d (SMK5)	0.13	0.05 - 0.34	17.86	<.001
ES x SMK5	2.75	0.89 – 8.47	3.12	.08
Preparation	2.08	1.18 – 3.77	6.41	.01
FTND	0.92	0.80 - 1.07	1.14	.28
Age above 40	1.69	0.94 – 3.04	3.13	.08
Medical Condition	1.56	0.82 – 2.94	1.86	.17

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Summary

- The expert system intervention outperformed a standard manual condition at 12-month for Chinese American smokers who smoked 5 or more cigarettes daily. However, the treatment interaction effect was no longer significant at 18-months.
- Being in the preparation stage of change predicted smoking abstinence at 12 and 18-month regardless of the intervention.
- Have a medical condition were more likely to be abstinence at 12-month regardless of the intervention.

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Implications

- **It is feasible to treat Chinese American smokers who are not ready to quit smoking.**
- **Preliminary findings support the use of a stage-based expert system intervention for treating Chinese American smokers who smoked 5 or more daily.**
- **Chinese smokers who smoke less than 5 cigarettes per day could benefit from low-cost self-help interventions. Further research exploring effective cessation strategies for light smokers who smoke less than 5 cigarettes/day is warranted.**

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Future Directions

Need to examine –

- **Longer term follow up**
  - ✓ if abstinence rates increase over time
  - ✓ predictors of long-term abstinence
- **Smoking reduction strategy** with the goal of complete abstinence
- **Significant others' involvement** in smoking cessation efforts
- **Role of CYP2A6 Gene and nicotine metabolism** on abstinence and relapse

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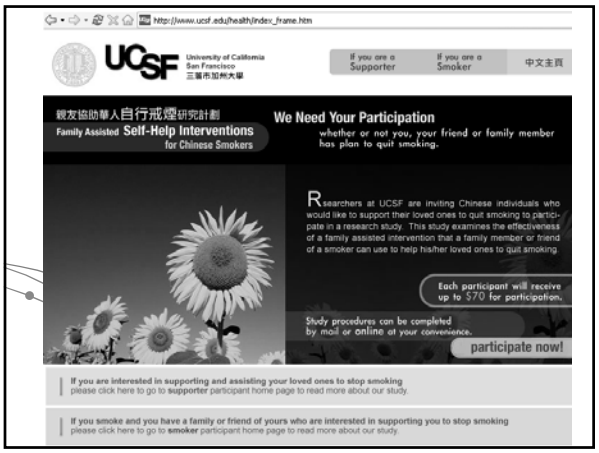
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If you are a Supporter
If you are a Smoker
中文主頁
親友協助華人自行戒煙研究計劃
Family Assisted Self-Help Interventions for Chinese Smokers
We Need Your Participation
whether or not you, your friend or family member has plan to quit smoking.
Researchers at UCSF are inviting Chinese individuals who would like to support their loved ones to quit smoking to participate in a research study. This study examines the effectiveness of a family assisted intervention that a family member or friend of a smoker can use to help his/her loved ones to quit smoking.
Each participant will receive up to $70 for participation.
Study procedures can be completed by mail or online at your convenience.
participate now!
If you are interested in supporting and assisting your loved ones to stop smoking
please click here to go to supporter participant home page to read more about our study.
If you smoke and you have a family or friend of yours who are interested in supporting you to stop smoking
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