

INTERNATIONAL TOBACCO CONTROL WORKSHOP

ANKARA, TURKEY
MARCH 25, 2015

Developing and testing «Cebiniz Bırakın Diyor»: An mHealth smoking cessation program for adult smokers in Ankara, Turkey

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* Thank you for your interest in this presentation. Please note that analyses included herein are preliminary. More recent, finalized analyses may be available by contacting CiPHR.

ACKNOWLEDGEMENTS:

Funding: The project described was supported by Award Number R01TW007918 from the Fogarty International Center. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Fogarty International Center or the National Institutes of Health.

We'd like to thank our colleagues, particularly Drs. Nazmi Bilir and A.Tülay Bağcı Bosi, from the Hacettepe University Public Health Department for their contributions to the project. We also thank Ms. Stoyneva and Dr. Augustson for their gracious sharing of slides.

Declaration of Interest: The authors have no competing interests to declare.

MOBILE HEALTH (MHEALTH)

- The use of technology to remotely monitor, track, respond and/or deliver an intervention for health related events.
- Examples of common technology used: mobile-optimized websites, text messaging, Smartphone applications (Apps), and remote sensors



Picture from: borgenproject.org

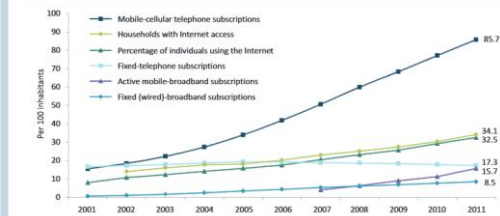
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	Passive	Active
Monitoring/Tracking		
Medical	Physiological data from a sensor	User enters the values from a blood glucose reading, reports taking medication
Behavioral	Location, Physical activity, or lack of activity	User reports activity, food eaten, smoking, alcohol use, mood
Respond/Intervention		
Medical	Medication reminders, appointment reminders. If physiological data meet threshold, the call is made to user	User responds to Healthcare Team direction or feedback from the device
Behavioral	Behavioral treatment delivery, Messages sent to user providing skills training, management of mood and craving, social support	User responds to the behavioral treatment or feedback from the device

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Growth in Mobile Phone Subscriptions Internationally

Chart 1: Global ICT developments, 2001-2011



Source: ITU World Telecommunication/ICT Indicators database.

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MHEALTH POTENTIAL

- **Reach**
 - Large audiences
 - Underserved audiences
- **Reduces cost burden** on healthcare system
 - Estimated Cost per Quit
- **Engagement** with intervention platform
 - Increase access to intervention
 - Decrease barriers to participation (scheduling, transportation, etc.)
 - Decrease space/time gap between treatment & behavior
 - Seamlessly integrate user interaction with treatment within their daily life
 - Interactive functionality → improved “dose”

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MHEALTH CHALLENGES

- Consistency of cell phone access
- Type of device
- Multiple users per device
- Fee structures
- Populations with Low Literacy
- Role of mHealth interventions with in larger public health infrastructure

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SMS TURKEY (CEBINIZ BIRAKIN DIYOR): DEVELOPMENT STEPS

Step 1: Conduct a community-based survey of adult smokers living in Ankara (n=150) to understand a) whether there is a demand for quitting, and b) whether it's acceptable to receive a quitting program via text

Step 2: Develop content. Translate and test it

Step 3: Test feasibility in a 1-arm pilot (n=75)

Step 4: Test efficacy in an RCT (n=150)

Picture from: myplanetbeachfranchise.com



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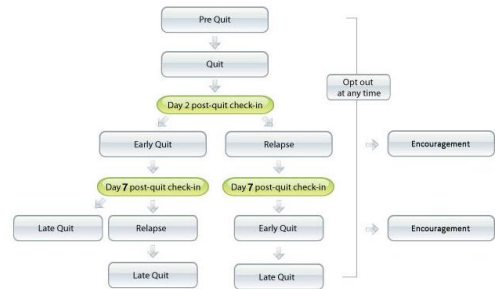
RESULTS OF THE COMMUNITY BASED SURVEY

Based upon data from 148 adult smokers surveyed in 2008*:

- Many smokers expressed a desire to quit:
 - 27% were seriously thinking about quitting in the next 30 days
 - 53% reported a quit attempt in the past year
- mHealth and eHealth were acceptable delivery mechanisms:
 - 45% said they would access a smoking cessation program available via text
 - 43% said the same about an online program

*Participants were recruited from mall intercepts, flyers posted at Hacettepe University Medical School, and intercepts on the university grounds
 Citation: Ybarra ML, Bağcı Bosi AT, Bilir N, Holtrop JS, Korchmaros J, Emri S. Interest in technology-based and traditional smoking cessation programs among adult smokers in Ankara, Turkey. *Tob Induc Dis*. 2011, Aug 1;9:10. doi: 10.1186/1017-9625-9-10.

DEVELOPING THE CONTENT



Citation: Ybarra ML, Holtrop JS, Bağcı Bosi AT, Emri S. Design considerations in developing a text messaging program aimed at smoking cessation. *J Med Internet Res*. 2012 Jul 24;14(4):e103. doi: 10.2196/jmir.2061.

TEST IN A 1-ARM FEASIBILITY TRIAL

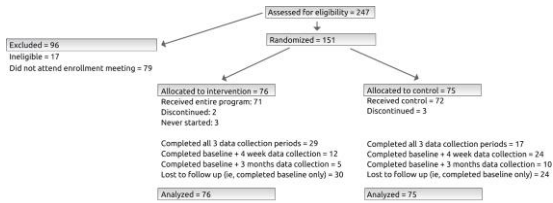
- 75 adults who were seriously thinking about quitting were recruited using flyers, word of mouth, and mall intercepts in 4 months in 2009.
- Most said quitting was very important to them (M = 9.3, SD = 1.3, Range: 1-10), but their confidence in being able to quit was low (M = 5.9, SD = 2.6, Range: 1-10).
- Feasibility was high: 84% provided CO readings at the office at 3-month follow-up.
- Acceptability was high: 71% would recommend the program to others, no one requested the messages be stopped.
- 13% (n = 10) of participants reported continuous abstinence since their quit date at the 12-week follow-up, confirmed by carbon monoxide readings.

Citation: Michele L. Ybarra, Jodi S. Holtrop, A. Tülay Bağcı Bosi, Nazım Bilir, Josephine D. Korchmaros & A. K. Salih Emri (2013): Feasibility and Acceptability of a Text Messaging-Based Smoking Cessation Program in Ankara, Turkey, *Journal of Health Communication: International Perspectives*, DOI:10.1080/10810730.2012.757399

RECRUITING PARTICIPANTS

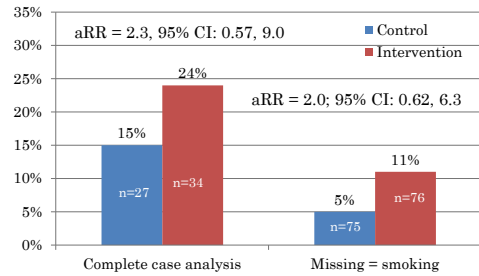


TEST IN A 2-ARM PILOT STUDY: CONSORT TABLE



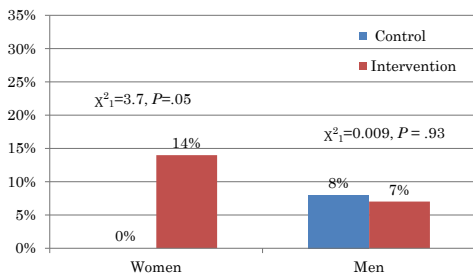
Citation: Ybarra M, Bağcı Bosı AT, Korchmaros J, Emri S. A text messaging-based smoking cessation program for adult smokers: randomized controlled trial. J Med Internet Res. 2012 Dec 27;14(6):e172. doi: 10.2196/jmir.2231.

PRIMARY OUTCOME: CO-VERIFIED CONTINUOUS ABSTINENCE AT 12 WEEKS

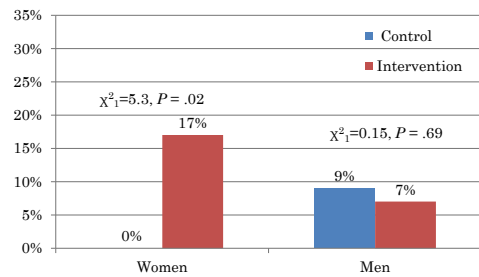


Relative Risk adjusted for: biological sex, income, education, smoking triggers, appraisal of good things about smoking, appraisal of good things about quitting; and social support from family, friends, and a special person

3-MONTH CESSATION RATES FOR MEN AND WOMEN SEPARATELY



3-MONTH CESSATION RATES FOR LIGHT AND HEAVY SMOKERS SEPARATELY



CONCLUSIONS AND NEXT STEPS:

- mHealth appears to be a promising delivery mechanism for smoking cessation program for adult smokers in Turkey.
- It is possible that heavier smokers, who also are more likely to be men, may need a different type of cessation program. More needs to be done to understand for whom and under what circumstances mHealth cessation programs work best.
- Feasibility work is the next step needed to understand the challenges and successes associated with scaling up an mHealth cessation program to the national level.

DEVELOP CONTENT:

Preparation: When and why do you smoke? Start a smoking diary to find out. Keep track of when you smoke each cigarette, what you're doing (the activity), how you're

Benefits of Quitting: Remember... former smokers live longer than people who keep smoking. Fight the urge to smoke today for better health tomorrow.

Encouragement: Have you been rewarding yourself everyday that you are not smoking? What are you going to do special for your self today for not smoking

DEVELOP CONTENT:

Pharmacotherapy: Put your reasons for quitting on the fridge, or somewhere else where you will see them. Talk to your doctor about pharmacotherapy, or buy some nicotine gum at the store.

Coping strategies: Here are some coping strategies. Practice the 4 D's as you work on cutting down: Delay, Distract, Deep breathe, and Drink water.

(Dealing with) **Discomfort:** Many smokers do gain some weight when they quit but it's because they eat to compensate for not smoking. A healthy diet and exercise can keep the weight off.

SMS TURKEY (CEBINIZ BIRYAKIN DIYOR): NUMBER OF MESSAGES:

Pre-Quit (Day 1 – 13): 3 messages/day

Day before quit day (Day 14): 5 messages

Quit day and Day 2 post-quit: 8 messages/day

(both Early quit and relapse)

Day 3 – Day 4 post-quit: 6 messages

Day 5 post quit: 5 messages

Day 6 post-quit: 4 messages

Day 7 post-quit: 3 messages

(both Late quit and encouragement)

Day 8 – Day 21 post-quit: 2 messages/day

Day 22 – Day 28 post-quit: 1 message/day