Feasibility and Acceptability of a Text Messaging–Based Smoking Cessation Program in Ankara, Turkey

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Data from high-income countries suggest that cell phone–based smoking cessation programs have the potential to affect cessation rates. There is a paucity of research, however, about the feasibility of cell phone–based smoking cessation programs in lower income countries that have higher smoking prevalence rates. A one-arm feasibility and acceptability pilot study of SMS Turkey, a text messaging–based smoking cessation program, was conducted in Ankara, the capital of Turkey. The authors recruited 75 daily smokers who were seriously thinking about quitting in the subsequent 30 days into the 6-week SMS Turkey program. Recruitment was completed in 4 months. Participant retention was high: Almost all (96%) completed the program, and 84% provided 12-week follow-up data. Most (89%) of the respondents who completed the 4-week follow-up measures (n=38, 51%) said that the text messages were easy to understand and referred to what

*they were experiencing and feeling during the quitting process (78%). On the basis of intention to treat, 13% of participants (*n=10*) reported, at 12-week follow-up, continuous abstinence since their quit date, confirmed by carbon monoxide readings. The cell phone text messaging–based smoking cessation intervention appears feasible and acceptable in Ankara, Turkey.*

With an estimated 44% of men and 12% of women smoking daily in Turkey, cigarette smoking is a major contributor to morbidity and mortality in the country (Başkent University, 2004; Ministry of Health Turkey, 2010). Despite Turkey's high smoking prevalence rate, more than half of smokers report a desire to quit, and 45% have attempted to quit in the past year (Ministry of Health Turkey, 2010). Effective smoking cessation programs are widely available in high-income countries but are scarce in low-income countries with high smoking prevalence rates such as in Turkey (Akala & El-Saharty, 2006; Laxminarayan et al., 2006).

Technology, including text messaging and the Internet, may be a way to increase service availability because it is scalable and cost-effective (Ybarra & Bull, 2007; Ybarra & Eaton, 2005). In addition, technology-based interventions lack the access issues that beleaguer traditional interventions, such as competition for time among other activities that adults want to engage in, scheduling, and transportation. Moreover, although individual counselors can tailor content to their client, technology-based programs are able to do so while ensuring fidelity to the program. Tailoring increases the self-relevance of material, thereby increasing the likelihood that the information will produce significant behavior change by motivating participants to act on the material (Kreuter, Farrell, Olevitch, & Brennan, 2000; Strecher, 1999; Strecher et al., 1994; Strecher et al., 2005). For example, content could be tailored by biological sex (e.g., "Women like you…"), or quitting concerns (e.g., gaining weight); it also can be tailored to where the participant is in the quitting process. For example, content for quitters in the prequit phase could focus on preparation (e.g., creating a diary of smoking behavior to better understand triggers). As people approach the quit day and the early period after quitting, content could shift to focus on how to stay quit in the short term. Content also could be drafted for people who relapse to help them understand why and how they relapsed and encourage them to try again.

In comparison with the Internet, cell phone–based delivery may be superior because it proactively pushes messages to the user instead of requiring a reactive behavior such as logging in. In telephone-based programs, proactive methods are more effective at affecting cessation than are reactive methods (Sherman et al., 2008).

Although text messaging–based smoking cessation studies are mostly fledgling at this point, a review suggests that these types of programs may have the potential to improve cessation rates, at least in the short term (Whittaker et al., 2009). For example, Rodgers and colleagues (2005) developed and tested a program in New Zealand. Messages were sent daily for 6 weeks. The intervention had two program components: a *text buddy*, who was another intervention participant with whom one communicated and provided social support; and *text crave*, an automated intervention response feature that participants could text in order to receive messages meant to distract them from their cravings. A total of 1,705 smokers 16 years of age and older (median = 22 years) were enrolled in the national randomized controlled trial. Twelve weeks after quitting, 29% of intervention participants versus 19% of control group participants reported that they remained quit using intention-to-treat analysis ($p < .001$). The program was recently adapted for smokers in the United Kingdom and tested among 5,800 adults (Free et al., 2011). Biochemically confirmed results at 6 months after

quitting suggest that participants in the intervention group are twice as likely to quit than are those in the control group (9% vs. 4%, Relative Risk [RR] = 2.14, *p* < .001).

Residents of Turkey own an estimated 53 million cell phones, making cell phones 2.7 times more common than landline phones (Central Intelligence Agency, 2008). Despite the public health need to disseminate cost-effective, evidence-based smoking cessation programs, there is a paucity of research about the feasibility and acceptability of technology-based smoking cessation programs in Turkey and other low-income countries with high smoking prevalence rates. To our knowledge, this is the first such report of a text messaging–based smoking intervention tested in a middle-income setting.

Description of the SMS Turkey Intervention

SMS Turkey was developed following a review of program components found in smoking cessation telephone-based counseling approaches, particularly those using cognitive behavioral therapy (Brown, 2003; Fiore et al., 2008; Holtrop, Corser, Stommel, & Holmes-Rovner, 2008; Stead, Perera, & Lancaster, 2006; Wadland, Stoffelmayr, & Ives, 2001; Zhu et al., 2002; Zhu et al., 1996). Cognitive behavioral therapy content focuses on altering the individual's way of thinking (cognitive processes) and acting (behavioral actions). Components include identifying new behaviors to be substituted for smoking-related activities, making a commitment to quitting, considering the consequences of continued smoking, seeking information about smoking, controlling cues that may trigger the urge to smoke, and rewarding oneself for not smoking (Rosen, 2000). Self-efficacy theory (Borrelli et al., 2002; Fagan et al., 2003; O'Hea et al., 2004; Tucker, Ellickson, & Klein, 2002) and relapse prevention (Ramsay & Hoffman, 2004; Stoffelmayr, Wadland, & Pan, 2003; Wadland Stoffelmayr, Berger, Crombach, & Ives, 1999; Wadland et al., 2001) are additional components noted to be key parts of effective smoking cessation programs (Ramsay & Hoffman, 2004; Stoffelmayr et al., 2003; Wadland et al., 1999; Wadland et al., 2001). Self-efficacy is one's belief in one's ability to effectively change behavior. It increases by mastering increasingly difficult tasks (e.g., quitting for increasingly longer periods of time). The following is an example program text message:

> Right now, you are learning to quit—You didn't learn how to ride your bike, or drive a car in a day! It's hard, and it will take practice.

Relapse prevention centers around training the person to identify situations in which he or she may be tempted to start smoking (Larimer, Palmer, & Marlatt, 1999; Marlatt & George, 1984). The following is an example program message on one's quit day:

> Look at your list of smoking patterns, remind yourself when you're most likely to want to have a cigarette and review how you're going to handle it.

Messages were created in English drawing upon the aforementioned literature review and a community-based survey of adult smokers in Ankara that was conducted to better understand smoking behaviors in this population (Ybarra et al., 2011). The messages were then translated into Turkish and then back-translated to ensure an accurate and salient translation.

As shown in Table 1, the program content was tailored by the participant's stage of quitting (e.g., prequit preparation vs. quit day) and by smoking status (e.g., whether

Table 1. Example SMS Turkey smoking cessation program text messages

Text message type	Text message examples
Prequit preparation	Congratulations!! The hardest part—deciding to quit—is already behind you. Write down all of the reasons why you want to quit.
	People who quit smoking use coping strategies—things to do instead of smoke. Look 4 cues or triggers 4 your smoking. For each one, write down something U can do instead, e.g., if you're angry, try deep breathing.
Quit day + 1	Congratulations—today is your special day!!! It is your first day without cigarettes. Your goal today is to keep yourself busy and without a cigarette. Think NOPE … Not One Puff Ever!
Early quit intervention	Treat every day like your quit day. Pretend like it is the first day without cigarettes and be prepared for temptation.
	Remember … former smokers live longer than people who keep smoking. Fight the urge to smoke today for better health tomorrow.
	Keep taking your nicotine replacement therapy or smoking cessation medication unless you are having problems. This will help you to stay quit!
Late quit	Think about how much money you've saved since you quit. Put it toward a new hobby or activity.
	Now that you don't smoke, you can go places you couldn't because of smoking restrictions. Try something new as a non-smoker.
	Whether you smoke or not, life sometimes gets stressful. People who work on the problem instead of hide the problem (by smoking) feel better. What can you do to handle or cope with stress in a healthy way?
Relapse	A slip is a warning or a learning experience. Warning = you still need to protect yourself in your danger zones (i.e., when you're most tempted to smoke).
	How did you feel just before you smoked? Recommit to complete quitting—cutting down isn't good enough for you!
Encouragement for those no longer wanting to quit (3 days)	Smokers live an average of 7–12 years less than non-smokers. Consider quitting again!
	Whatever you decide about smoking, believe in yourself. You CAN quit smoking if you put your mind to it and have a plan for success.
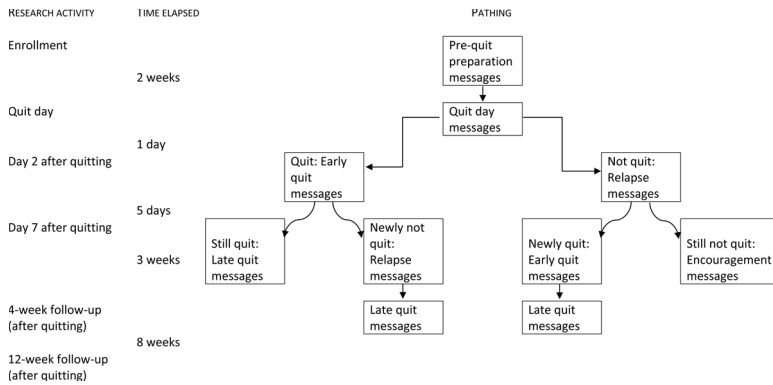
Figure 1. SMS Turkey text messaging program flow.

he or she had a puff of a cigarette in the past 24 hours). The program paths are shown in Figure 1. On the basis of Zhu and colleagues' (1996) findings that in a telephone quit-line environment, attempters were most likely to relapse after their quit day (e.g., Day 1) and by Day 7, SMS Turkey participants were contacted on the day after their quit day (i.e., Day 2), and on their sixth day after quitting (Day 7) and were asked whether they were currently smoking. Subsequent content was then based on whether the participant remained quit. For each of the two days, if participants reported smoking a puff of a cigarette or more in the previous 24 hours, they were routed into relapse messages. If participants reported no smoking, they received messages that focused on strategies to remain quit. If participants were smoking on both Days 2 and 7 after quit day, they were routed to messages that encouraged them to try quitting again in the future.

On the basis of clinical practice guidelines (Fiore et al., 2008), participants smoking 10 or more cigarettes per day were encouraged to talk to their physicians about pharmacotherapy. We did not provide pharmacotherapy for free to approximate how this intervention would most likely be disseminated in the real world if effectiveness was shown.

Method

The research protocol was reviewed and approved by the Chesapeake Institutional Review Board in the United States and by Hacettepe University in Ankara, Turkey.

Respondents and Settings

Respondents were recruited in Ankara, Turkey. As the capital of Turkey, Ankara is the second largest city, after Istanbul, in Turkey. It is in the heart of the Anatolian Peninsula, which is a main trading route for tobacco between Asia and Europe. It is estimated that at least one smoker resides in 70% of the houses in the southeastern Anatolian region, which is similar to the country as a whole (Bozkurt et al., 2006). According to Emri, Basoglu, Turnagol, Bacanli, and Tuncer (2003), 41% of adults in Ankara are smokers, ranking third in prevalence after Istanbul (44%) and Izmir (44%). Thus, Ankara is characteristic of many cities in the Middle East with a high smoking prevalence.

Eligibility criteria for the intervention included the following: being 18 years of age or older, smoking daily, seriously thinking about quitting in the next 30 days,

owning a cell phone and sending and receiving messages in the past year, and giving informed consent. We measured intention to quit by asking respondents, "Are you seriously thinking of quitting smoking cigarettes?" Response options were as follows: (a) "No, not thinking about quitting"; (b) "Sometime, but not within the next 6 months"; (c) "Yes, within the next 6 months"; and (d) "Yes, within the next 30 days." Only those who endorsed the fourth option were eligible. Participants who had a serious health condition (i.e., emphysema, heart disease, lung disease) were excluded because the intervention was designed for the general population; those with chronic, serious illnesses would likely require a different type of intervention.

Incentives in research are not typically used in Turkey, and therefore we followed the recommendation of our Turkish collaborators and did not use incentives in this study.

Procedures and Measures

Recruitment of the sample occurred between February and June 2009. Respondents were recruited through several methods that approximated a test of effectiveness: that is, self-selection of people who were thinking about quitting smoking and looking for aids to help them in this endeavor. We erected stands at two popular shopping malls and posted 1,000 flyers in the common areas at the pulmonary outpatient center and other hospital clinics at Hacettepe University. Participants interested in the study completed an eligibility questionnaire. Those who were eligible made an appointment to meet with research staff at the study office. During the enrollment meeting, the study was explained, informed consent obtained, and then participants completed the baseline assessment.

Initially, 182 people expressed interest in participating, 165 of whom were eligible for the program. Reasons for ineligibility included living outside of Ankara and having a chronic disease (e.g., emphysema). Of those, 84 people made appointments for enrollment but did not attend; an additional five declined to participate actively because they no longer were seriously thinking about quitting smoking. In all, 76 adults (46% of those eligible) attended the enrollment meeting during which they consented to take part in research. One consented participant was censored prior to enrollment because of suicidal ideation, resulting in a final sample size of 75 people.

Because ours was a pilot study, all participants were assigned to the intervention group to maximize the amount of data we could collect about the program. The sample was purposefully balanced on biological sex so that we enrolled an equal number of men and women. Once 38 participants of one biological sex were enrolled, no additional people of that sex were eligible.

Survey data and carbon monoxide readings were collected at the study office at baseline, 4-week follow-up, and 12-week follow-up. Participants completed the survey online themselves. If the participant could not come into the office at follow-up, the research assistant queried smoking status over the telephone. Participants were asked to complete acceptability data at 4 weeks, directly after the program end, to minimize recall bias.

Feasibility was measured by the following:

1. Recruitment rate: whether we were able to recruit our target sample size of 75 participants in the time allotted in the project, which was 6 months.
2. We measured retention rates in two ways: (a) within the intervention, whether participants would respond to queries about their smoking status on Days 2 and 7

after quit day (a requirement to be assigned to the appropriate path with the next set of text messages); and (b) in the research, whether we could achieve follow-up rates high enough to conduct a larger randomized control trial (at least 75%).

3. Performance of the software that sends the program text messages (i.e., the messages needed to be sent successfully to all mobile phone carriers as designed).

We used the following criteria to measure acceptability: (a) participant responses to the text messages; (b) how many participants requested to be removed from program during the intervention phase; and (c) a series of questions about program likability, administered at 4 weeks.

In addition, a carbon monoxide test was used to verify self-reported quit status. Carbon monoxide was measured by the research assistant, who was trained by the project physician (SE) to use the carbon monoxide device to produce a valid measurement.

Results

This study enrolled 75 participants. As stated earlier, about half (49%) were women by study design, and 48% were married. Participants were an average of 37.6 years of age (range = 19–62 years; $SD = 10.8$ years). Median monthly household income was 2,000–4,000 YTL (approximately US$1,250–US$2,500).

All participants said that quitting was very important to them (range = 1–10, $M = 9.3$, $SD = 1.3$) although their confidence in being able to quit was generally low (range = 1–10, $M = 5.9$, $SD = 2.6$) at baseline. The average participant was addicted to cigarettes based upon the Fagerström score (range = 0–8, $M = 4.3$, $SD = 2.4$). Most (76%, $n = 57$) reported a quit attempt for at least 24 hours in the past year.

Feasibility

The target sample size was achieved within the first 4 of the planned 6-month recruitment period. Fifteen participants were recruited at one mall (over 2 months) and 27 at the other (over 3 months); 24 were recruited through word of mouth; and 9 from flyers.

Retention within the intervention was high. Because the software program was unidirectional, the research assistant contacted participants on Days 2 and 7 after quit day to query their smoking status and manually assign them to their applicable message path. All 75 participants provided self-reported cessation data on Day 2 after quit day. Most of the participants ($n = 72$; 96%) provided self-reported cessation data on Day 7 after quit day. Because smoking status was required in order to put a participant on the path to the next set of messages, the three participants who did not respond on Day 7 after quit day did not receive any further intervention messages.

At 4 weeks, 46 participants (61%) provided smoking status, and 38 (51%) completed acceptability data. In addition, 63 participants (84%) completed the office-based carbon monoxide test 12 weeks after quit day. The research assistant called participants at least six times or more and sent them text messages to achieve the response rate at 12 weeks.

The software program and the text messaging infrastructure in Turkey were reliable. All test text messages sent to the project team during beta testing were received. Program messages were delayed in two instances. The first was the text messaging

vendor's error: Changes were made to the programming on their end, and they failed to notify the research team before uploading the changes (8 participants were in the field at the time). The second was the research team's error: The balance used to pay for the text messages fell below the required minimum amount (20 participants were in field at the time). In both cases, the problem was identified when participants contacted the research assistant and indicated that they had stopped receiving messages. The problems were rectified and messages resumed within 24 hours each time. Because enrollment was rolling, participants were at various stages of the intervention when the message delays occurred. Participants were asked 2 and 7 days after quit day whether they were having any problems receiving the text messages. No problems beyond these two issues were noted.

Acceptability

No one requested that we stop sending text messages, complained about the text messages, or requested to be removed from the study. In contrast, when the program had ended, 15 participants asked to receive more text messages. Furthermore, many participants told the principal investigator (SE) that they kept the text messages on their phones and referred back to them.

As shown in Table 2, among participants who provided acceptability data ($n = 38$, 51%) favorable reactions to the program were observed. Most (69%) liked the program somewhat or very much and would be somewhat or very likely to recommend the program to others (71%). Furthermore, 87% felt that the program did not disrupt their daily schedule. Last, 2 in 5 participants (39%) perceived that the program made it easier to quit smoking. All ratings were statistically similar for men and women.

Also shown in Table 2, participants had favorable reactions to the text messages. Most respondents at 4 weeks (89%) said the messages were easy to understand and talked about what they were experiencing and feeling during the quitting process (78%). Moreover, participants attended to the messages: Although 63% of respondents reported that there were too many text messages received per day, they said that they read almost all of their messages (an average of 9.7 on a 10-point scale ranging from 1 [*never*] to 10 [*always*]). Last, 79% reported reading their messages throughout the duration of the program. Ratings were similar for men and women.

Program Paths

Twenty-one participants reported remaining quit on Days 2 and 7 after quit day. Forty participants were smoking on both Days 2 and 7 after quit day. Five reported smoking on Day 2 but then having quit again by Day 7 after quit day. Six reported remaining quit on Day 2 but smoking on Day 7 after quit day. The other three participants did not report their smoking status on Day 7.

Preliminary Cessation Data

Twelve weeks after quit day, 63 participants (84%) provided carbon monoxide data at the study office. On the basis of intention-to-treat, 13% ($n = 10$) of participants reported continuous abstinence since their quit date at the 12-week follow-up, confirmed by carbon monoxide readings.

Table 2. Program acceptability ($N = 38$)

Program acceptability measure	All respondents, % (n)
Appraisal of program	
Likelihood of recommending program to others	
Very likely	18% (7)
Somewhat likely	53% (20)
Neutral	16% (6)
Unlikely/not at all likely	13% (5)
Overall rating of the program	
Like very much	8% (3)
Like somewhat	61% (23)
Neutral	24% (9)
Dislike somewhat	8% (3)
The program made it easier to quit smoking	
Agree	39% (15)
Neutral	26% (10)
Disagree/strongly disagree	35% (13)
The program disrupted my daily schedule	
Agree/strongly agree	10% (4)
Neutral	3% (1)
Disagree/strongly disagree	87% (33)
I would not have been able to quit without the program	
Agree	22% (8)
Neutral	46% (17)
Disagree/strongly disagree	32% (12)
Appraisal of text messages	
Frequency of reading text messages,[a] M (SD)	9.7 (1.05)
I received too many text messages	
Agree/strongly agree	63% (24)
Neutral	8% (3)
Disagree/strongly disagree	29% (11)
I stopped reading the messages by the end of the program	
Agree	13% (5)
Neutral	8% (3)
Disagree/strongly disagree	79% (30)
Messages were easy to understand	
Agree/strongly agree	89% (34)
Disagree	3% (1)
Missing	8% (3)
The messages talked about what I was experiencing and feeling	
Agree	78% (29)
Neutral	8% (3)
Disagree/strongly disagree	13% (5)
Missing	3% (1)

[a]Reported on a 10-point scale ranging from 1 (*never*) to 10 (*always*).

Discussion

Unlike the United States where tobacco use is considered a "hardening of the target" (Warner & Burns, 2003), smoking is normative and a social experience in Turkey (Ghouri, Atcha, & Sheikh, 2006; Nierkens, Stronks, & de Vries, 2006; Yuksel & Corbett, 2005). Despite this, demand for quitting services was sufficient to enroll participants within the allotted project timeframe. In addition to being feasible, the program appears to be acceptable to participants. Passive dropout was rare: only 3 participants failed to provide smoking data on Day 7 after quitting. Of those providing acceptability data at 4 weeks, 7 in 10 said that they would recommend the program to someone else. There is indication that the number of messages should be reduced; yet even so, those who wanted fewer messages chose to read all or most of the program content. This, combined with the observation that three in four said the messages spoke to what they were experiencing, suggests that the content is salient for most participants.

On average, we enrolled 18.75 participants per month. Our enrollment rate is similar to some other studies that use traditional, non-Internet methods. For example, Feil et al. (2003) recruited 77 participants over 6 months (12.8 participants per month) though newspapers, pamphlets, radio interviews, and referrals. Through billboards, bus interior posters, flyers, television advertisements, and press releases, Japuntich and colleagues (2006) recruited 284 participants in 10 months (28.4 participants per month). However, several studies report a swifter recruitment rate. Swan and colleagues (2010) recruited 1,202 participants from a large health care organization over 12 months (100 per month). Free and colleagues (2009) used radio-, poster-, and leaflet-based advertisements to recruit 200 participants in 18 days. It should be noted that none of these other research studies was conducted in a setting that had a comparably high smoking prevalence rate and a strong social norm for smoking, such as Ankara. This may be why we encountered such a high number of people who did not consent to or complete the enrollment process. It is important to note that we were able to reach new quitters: 1 in 4 SMS Turkey participants had not tried to quit before.

Results suggest that a mixed recruitment method would be useful. Although we recruited the greatest number of participants from shopping malls, word-of-mouth also provided a sizeable source of eligible participants. Perhaps too, these results suggest that future programs could integrate a social support component to allow friends to quit together and share their experiences through the program.

We chose to query acceptability data as soon after the intervention was over as possible to minimize recall bias; but because of limited resources, we put the greatest amount of research assistant resources into obtaining high rates of 12-week carbon monoxide verification data. As such, the 12-week follow-up response rate was high (83%), mainly because of the persistence of the research assistant. It is possible that response rates would be higher and the necessary follow-up activities less intense if the research assistant goes to the participant's location, as is now possible given that wireless Internet is widely available in Ankara.

Program Paths

The majority of participants ($n = 40$) were smoking on both Days 2 and 7 after quit day. On the basis of experience in the United States with people quitting in clinic settings, we decided to put participants who were unsuccessful in quitting on a path to an encouragement arm that assured them that quitting is a process that often takes several attempts. In so doing, we meant to respect the participants' experience; if participants

were struggling to quit, sending them text messages about how well they were doing with quitting, or even how they should "not quit quitting," could have been perceived as shaming and may have disenfranchised participants in what might have been a teachable moment. The encouragement messages lasted for 3 days, and then their program ended. In future iterations, it may be appropriate to give these participants the option to restart the program after their 7-day response, if they so choose.

Relapse patterns varied: 5 participants were smoking on Day 2 but had quit again by Day 7; and 6 participants were the opposite—they remained quit on Day 2 but had resumed smoking by Day 7. In both cases, participants were put on the relapse path and then moved through the rest of the cessation messages. Findings highlight the variability of quitting patterns among smokers.

Cessation data suggest that 13% of participants had successfully quit smoking at 12 weeks after quit day. Our cessation rates are lower than the 29% reported at 12 weeks after quitting in the New Zealand study (Rodgers et al., 2005). Differences may be attributable to Turkey having a much higher smoking prevalence rate in comparison to New Zealand.

There are several limitations to our study. First, program acceptability measures were rather crude and answered by only half of the participants. More specific information about particular program components, among a larger representation of the sample would be helpful. Second, as a feasibility and acceptability study, we did not include a control arm. How cessation rates compare to those that would be observed in a treatment-as-usual setting is unknown.

Conclusions

The highest cessation rates are reported by face-to-face behavioral treatments in high income countries, yet only 4–7% of smokers in the United States report accessing them (Schwartz, 1987). Certainly effectiveness is important; but if the program is not actually used, then the public health impact of the cessation program is minimal. To increase the success rates for adults who want to quit, interventions need to be high reach (e.g., convenience of and wide access to) and effective (i.e., based on sound evidence for success). Researchers are beginning to embrace technology as a new and interactive delivery method of smoking cessation programs in high-income countries, yet little research attention has been paid to similar applications in middle-income countries with high prevalence rates, such as Turkey. Our data suggest that there is sufficient demand for quitting services in Ankara, Turkey, to justify further efforts to test and disseminate evidence-based smoking cessation programs. Moreover, the cell phone–based smoking cessation intervention delivery mechanism appears feasible and acceptable.

Next Steps
The next steps include formative testing of the content to identify opportunities for cultural tailoring (given that it was written by researchers in the United States) and tailoring to subpopulations. The pathing of participants will be automated so that participants receive text messages querying their smoking status on Days 2 and 7 after quit day. On the basis of the response to the text message, the software program will automatically channel them to the appropriate path. When these improvements have been made, we aim to test the efficacy of the program in a national, randomized controlled trial.

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