Utilizing Technology in a Randomized Pilot Study for a Smoking Cessation Intervention: An Innovative Approach Using SMS Messaging Systems

Elise Garcia, McNair Scholar, Psychology Major
Dr. Elliot Berkman, Faculty Mentor, Psychology Department (University of Oregon)

ABSTRACT

Objectives: Previous randomized controlled trials of Short Message Service (SMS) technology in smoking cessation interventions have been proven to be effective. Upon the completion of our pilot study, we will investigate the combined effects of delivering self-help SMS text messages with candidate that rate ≤5 on the Commitment Ladder attention to quit scale as motivated to quit.

Method: A sample of 800 adult smokers from the Eugene Community intending to quit will be recruited in our two sessions (baseline and follow-up) where psychological tests and self-reports will be required. Smokers will be allocated to one of three conditions: smoking cessation interventions conducted under natural-based settings.

Hypothized Results: Our results showed significant positive outcomes. Inclusion, over forty participants from the self-generated group reported a drastic reduction of cigarette smoking than the control group. Subjects from the self-generated with implementation intention condition reported a slight increase in self-efficacy over participants in the self-generated condition.

Discussion: This findings demonstrate the efficacy of SMS text messaging in a smoking cessation intervention conducted under natural-based settings.

INTRODUCTION

Various randomized controlled trials of Short Message Service (SMS) technology in smoking cessation interventions have been tested for effectiveness in professional institutional settings. Upon reviewing the available literature reviews, we were able to conclude the efficacy of utilizing interactive text-based SMS technology in aiding smoking cessation interventions in real-world settings. Specifically, the focus of this study is on smoking cessation using SMS messaging intervention. Subjects who are intending to overcome their nicotine addiction will be invited for their follow up session.

METHODOLOGY

Ninety-three potential participants were recruited from the Eugene community. Various marketing methods were exercised. Among these methods, flyers were posted on local bus stations, public light polls, department stores and public posting boards. The most fruitful method of recruitment was the posting of an ad on a local newspaper. Nineteen one hundred and fifteen potential participants replied to the SafeGuard. Furthermore, nineteen one hundred participants yielded disconnected numbers. Significantly, fifty-seven of the ninety-seven potential participants who received a reply from our ad proceeded to schedule an initial 20-45min telephone screening session. Subsequently, twenty-one participants consented to the requirements and were scheduled for their baseline session at the University of Oregon.


Thereafter, a quit date was scheduled prior to the attending the onsite baseline session. Consequently, participants were informed of the potential amount of incentives they would receive upon completion of the thirty days. Lastly, participants were informed of the two required sessions and as well as the duration of these sessions. Both baseline sessions and follow-up sessions were confirmed via sms text message and/or phone call, at least 24 hours in advance.

LITERATURE REVIEW

Current studies suggest almost half a million tobacco users die each year from tobacco related illnesses; excluding the death rates in evolving countries. Consequently, nicotine addiction is the number one leading cause of preventable deaths worldwide (Spring, Pingitore, McChargue, 2000). The systematic use of SMS texts allow the experimenter to simultaneously treat and communicate with any subgroups from virtually any location (Fjeldsoe, Marshall, & Miller, 2009). Importantly, it allows the experimenter to receive instant personalized feedback. This flexible response acquisition can be used to enhance the efficacy of future interventions.

The over the last decade, numerous randomized control trials have been undertaken to test the efficacy of cell phone technologies for smoking cessation interventions among college-aged students and adults. In New Zealand, almost two thousand smokers were recruited for participation in a smoking cessation intervention. Young adults were the intended sub-group population for the implementation of this intervention. The subjects were randomly assigned to one of three intervention groups. Participants were sent five “quit-smoking” intended text messages per day for the first four weeks of the intervention. Later, the quantity of the encouraging text messages were decreased to three text messages per week, upon the completion of the first thirty days for the remaining five months. The initial follow-up session was undertaken after the first six weeks and secondary follow-up session was concluded after twenty-six weeks (Rodgers et al., 2005).

One recent literature review assessed several studies for high self-report efficacy and other criteria. A total of thirty-three pilot studies were evaluated for both effective behavioral outcomes and feasible treatment models. This literature review explored only one type of intervention, the usage of SMS text messaging. In this investigation, slightly more than a dozen of the thirty-three studies were proven to have feasible positive outcomes. Moreover, only four of the dozen reviews actually pertained to smoking cessation interventions.

FURTHER RESEARCH

Previous limitations were addressed in our pilot study. Hence, results from our pilot study will yield fruitful modifications and positive outcomes to future studies. Short-term self-efficacy and intentions to quit were established in the self-generated implementation intention group. However, longitudinal studies need to conducted to test the long-term efficacy of this study.

CONCLUSIONS

Current Status
Approximately thirteen smokers (M=14, F=3) between the ages of 25-54 are currently part-taking in our 30 day sms smoking cessation program. All participants will terminate the program in the following week. Since our current messaging generating system QUITJUICE, can only generate texts messages to thirteen participants at one time, further proactive recruitment will be required. As research assistant, I will be in charge of screening and scheduling the following group of thirteen, until the total number of participants have been met.

Hypothesized Results
Our United Kingdom, the 30 days, final self-reports and physiological test samples from current and prospective participants will be collected and analyzed; we hope to conclude the efficacy of our smoking cessation study by utilizing sms technology in a natural-based settings. Secondly, smokers with strong intentions to quit in the self-generated implementation intentions group will be compared from to the self-generated condition group. Promising findings will depict a noticeable change between the self-generated implementation intentions group and the self-generated group. Implementation intention group will have lower cotinine levels and increases in self-efficacy. This will confirm the efficacy of our pilot study.

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