

# THE USE OF AUTOMATED TEXT MESSAGING AS AN INTERVENTION FOR SMOKING CESSATION

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## Significance of the Problem

- About 40 million adult smokers exists in the U.S. (CDC,2020).
- In Indiana, 1 in 5 adults currently smoke cigarettes(CDC,2020).
- Smoking is the leading cause of preventable disability and is associated with lung cancer, heart disease, diabetes, tuberculosis and death (CDC, 2020).
- Causes approximately 480,000 deaths annually (CDC,2020).

## PICOT Question

“In the primary care setting, in adults aged 18 years or older who smoke (P), does receipt of a daily automated short message service (SMS) program such as SmokefreeTXT for six weeks after each participant’s quit date and a follow-up call after completion of the six weeks program (I) compared to current practice (C) increase the rate of smoking abstinence or decrease the number of cigarettes smoked (O) within six weeks (T) ?

## Review of Literature

Evidence	Database/Source	LOE <sup>1</sup> /Quality <sup>2</sup>
Abroms et al. (2014)	CINAHL	II, good
Scott-Sheldon et al. (2016)	CINAHL	I, high
Spohr et al. (2015)	CINAHL	I, high
Whittaker et al 2019	Cochrane Library	I, high
Chronic Disease Node Group (2019)	Joanna Briggs Institute	I, high
Free et al. (2011)	Medline with Full Text	II, high
Verbiest et al. (2017)	Medline with Full Text	I, high
Ybarra et al. (2013)	Medline with Full Text	II, high

<sup>1</sup> Melnyk and Fineout-Overholt, 2019

<sup>2</sup>John Hopkins, 2017

## Best Practices

- Text message content or format/frequency should be chosen based on setting.
- Any type of text messaging application can be used .
- Outcomes should be measured using the self-report of each participant.

## Implementation

- **EBP Model:** The IOWA Model Revised: Evidence-Based Practice to Promote Excellence in Health Care
- **Settings:** Primary care clinic in northwest Indiana
- **Participants:** N= 15, n = 13
- **Intervention:** SmokefreeTXT application by National Cancer Institute was used. Participants were enrolled in the clinic by DNP student. Text messages were sent daily to all participants for duration of 6 weeks. All participants received the same messages from the application for the duration of the project.
- **Measurement:** Abstinence and cigarette consumption were measured after 6 weeks. Abstinence was defined as smoking 5 or less cigarettes for the duration of this EBP project. Pre-intervention and post- intervention cigarette consumption were compared. A self-report was used to measure each participant’s cigarette consumption.

## Evaluation

### Primary Outcome

- **Cessation Rate:** 69.23% ( $n = 9$ )
- **Chi-square goodness of fit** compared frequency of abstinence in sample to the population of adult smokers.
- No significant difference found ( $\chi^2(1) = 1.92, p = > .05$ )

### Secondary Outcome

- **A paired t-test compared** pre/post-intervention mean cigarettes smoked per day
- Pre-intervention:  $M = 10.85, SD = 3.78$  and post-intervention number of cigarette smoked per day  $M = 3.92, SD = 5.19$
- Significant decrease in number of cigarettes smoked post-intervention  $t(12) = 4.83, p < .001$

## Conclusions and Recommendations

- Statistically and clinically significant results achieved for both primary and secondary outcomes. Therefore, use of SmokefreeTXT is encouraged for smoking cessation.
- Participants were satisfied with SmokefreeTXT application.
- Ability to vary the timing of text messages from the SmokefreeTXT application should be explored.
- Study of usage of SmokefreeTXT application is encouraged in a larger and more diverse population.

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