

Effectiveness of cognitive behavioral therapy and basic health education for tobacco cessation among adult tobacco users attending a private tobacco cessation center

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ABSTRACT

Background: India being major consumer of tobacco faces various problems involved for its cessation. Over the time enormous methods have been evolved which may aid in tobacco cessation. **Materials and Methods:** The present study was conducted among 100 adult tobacco users attending tobacco cessation clinic. The individuals were randomized into 2 counselling groups: Group A - Basic health education (BHE) and Group B Cognitive Behavioral Therapy (CBT). Baseline evaluation of demographic parameters, smoking/smokeless behavior was recorded and Fagerstrom's test for Nicotine Dependence (FTND) was utilized to assess subjects' nicotine addiction levels. Follow up was done at intervals of 2 weeks and 4 weeks to assess the reduction in the mean FTND score. Appropriate statistical test was utilized to evaluate the results. **Results:** The majority of individuals in the study were male in age group of 41-60 years. The reduction in mean FTND score was found in both Group A and B on follow-up. But when both groups were compared, reductions in mean Fagerstrom scores were found to be more in CBT group than in BHE group at all time intervals. **Conclusion:** Individuals in both the group have quit the tobacco use by both the interventions followed by proper schematic follow up.

Keywords: Basic health education, cognitive behavioral therapy, tobacco cessation center, tobacco users

Introduction

India occupies a very special place in the world's tobacco map. As the second-most populous country in the world, India's share of the global burden of tobacco-induced disease and death is substantial and as the second-largest producer and consumer of tobacco in the world, the complex interplay of economic interests

and public health commitments becomes particularly prominent in the Indian context.^[1] There are two main forms of tobacco in common use: smoking tobacco and smokeless tobacco.

Smoking tobacco includes cigarettes, Bidis (smoked throughout South East Asia particularly in India), Cigars, Pipes, hookah, hubble-bubble, and shisha. Smokeless-tobacco products consist of tobacco leaves and a wide variety of flavoring ingredients and are used either orally or nasally. They include chewing tobacco, pan-masala, gutkha, mishri, or gudakhu (powdered tobacco rubbed on the gums as toothpaste).

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According to WHO, around 80% of adult tobacco consumers start their utilization before 18 years old. Almost 25% of every young smoker starts by the age of 10 years when they are dreadfully youthful to comprehend or oppose social desires. Around 55,000 preadult beginning utilizing tobacco ordinarily in India, joining 7.7 million adults than 15 who as of now consistently use tobacco.^[1]

Tobacco is considered as indisputably the most preventable purpose behind driving overall mortality.^[2] Tobacco use in any structure can significantly change the systemic as well as oral health. The utilization of tobacco is related to a wide range of diseases including stroke, coronary supply route ailment, gastric ulcer and malignant growths of mouth, larynx, throat, pancreas, bladder, and uterine cervix.^[3]

Smoking cigarettes can have numerous adverse impacts on your oral wellbeing. Among these impacts is oral malignancy, periodontal infection, the main source of tooth loss and affectability deferred mending after tooth extraction or other oral medical procedure; awful breath discolored teeth and tongue; a decreased feeling of taste and smell. Like cigarettes, smokeless tobacco items contain an assortment of poisons related to malignancy. Smokeless tobacco is known to cause malignant growths of the mouth, lip, tongue, and pancreas.^[4]

The discovery of early markers of tobacco use in the oral cavity of these vulnerable people by a dental specialist would get them early and give a chance to the usage of tobacco end administrations to secure their wellbeing. Subsequently, the present investigation was directed with the point of testing the viability as well the effectiveness of cognitive-behavioral therapy in comparison with basic health education for tobacco cessation.

Materials and Methods

The present study was conducted among the individuals attending the tobacco cessation clinic of the Department of the Public Health Dentistry. 100 current tobacco users (continuous users of any form or combination of tobacco until the day of recruitment) were enrolled to compare the effectiveness of Basic Health Education (BHE) and Cognitive Behavioral Therapy (CBT). Those who were under treatment for psychiatric disorders or pre-diagnosed to have tobacco-induced oral or systemic diseases were excluded from the study. Ethical clearance was obtained from the Institutional Ethical Committee and the study procedure was explained to the patients, and written informed consent was obtained.

Each patient was assigned a number which was from 1 to 100 and by using a lottery method, the patients were randomly assigned to either group. Group A comprises individuals assigned for BHE along with an intraoral camera and Group B CBT along with the intraoral camera. The baseline data comprising of socioeconomic profile and tobacco behavior along with Fagerstrom's test for Nicotine Dependence (FTND) was used to assess subjects' nicotine addiction levels.

BHE provided information on the harmful effects of tobacco use. Subjects were advised to think positively, keep themselves busy, remove tobacco products from his/her surroundings, and listen to music and to exercise. CBT: Subjects who were randomized to this group were taught cognitive-behavioral cessation and relapse prevention strategies and these included discussions on barriers to cessation, quitting self-efficacy, previous quit attempts, risk perceptions, and pros and cons of quitting. This therapy provided encouragement and support, training on educational and coping skills.

Follow-up was done at intervals of 2 weeks and 4 weeks. All the techniques were reinforced again at the follow-ups. The data obtained were coded and tabulated. SPSS, version 20 was used to analyze the data. Paired and unpaired "t" tests were used for intragroup and intergroup comparisons respectively and *P* values of <0.05 were considered to be statistically significant.

Result

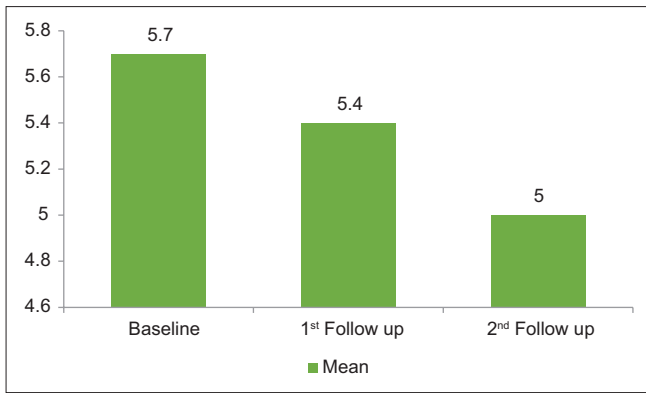
The present study was done among the 100 current smokers divided equally into CBT and BHE groups respectively. The majority of study individuals were male belonging to 41 to 60 years of age group. Smokeless form of tobacco was more favored followed by smoking form [Table 1].

Overall, significant reductions in mean FTND scores at 1st and 2nd follow-ups from baseline and between 1st and 2nd follow-ups in both CBT and BHE groups [Graphs 1 and 2]. Graph 3 reveals that the mean FTND score reduction was more in the CBT group compared to the BHE group during all duration of the study.

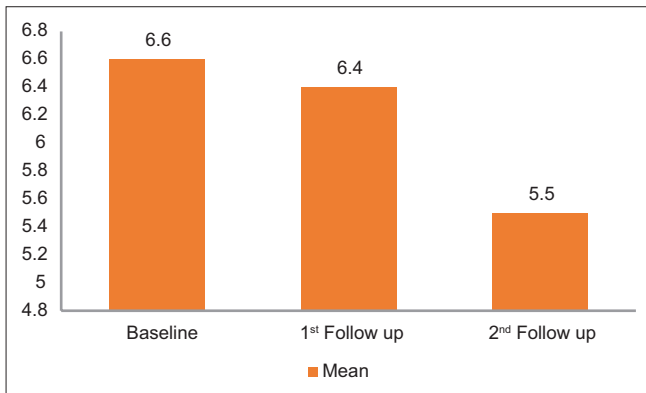
Discussion

Tobacco use poses an enormous threat to public health worldwide, killing more than eight million people every year. More countries are making tobacco control a priority and saving lives, but there is much more work to be done. Confidence in providing tobacco cessation counseling is a challenge for both dental students and practicing dental professionals.^[5,6] Preventive methodologies that emphasis on psychosocial elements related to medication use commencement and those that accentuate the instructing of social opposition aptitudes either alone or in blend with conventional individual and social strategies are effective.^[7]

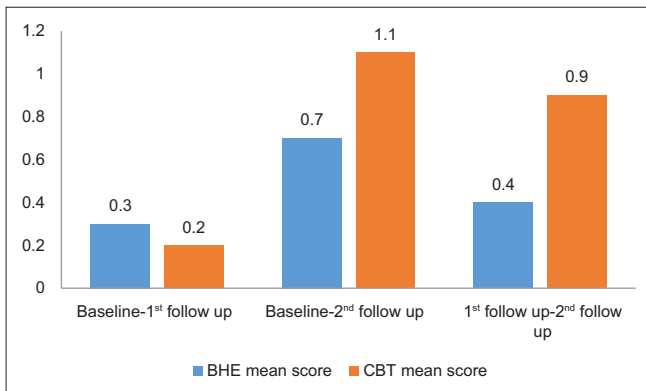
A dental institute provides an ideal environment to provide information and practices regarding all the relevant tobacco cessation methods.^[8] This study was done to assess and compare the effectiveness of CBT vs BHE. Both CBT and BHE performed well, yet when both the groups were looked at, mean score reduction was observed to be more in the CBT group than in the BHE group. This proposed the distinctions and adequacy of various approaches in tobacco cessation counseling. A study conducted by Schnoll RA *et al.* revealed no noteworthy distinction in 30-day point-point-prevalence abstinence between the CBT and BHE at either 1 month (44.9% vs 47.3%, separately) or



Graph 1: Comparison of mean FTND score in CBT on follow-ups



Graph 2: Comparison of mean FTND score in BHE group



Graph 3: Comparison of mean FTND score reduction in CBT and BHE at different follow-up

3 months (43.2% vs 39.2%, individually) follow-up assessments. A higher level of quit inspiration and lower cons of stopping were identified with smoking discontinuance.^[9]

An investigation which was done by Skyes CM *et al.* demonstrated that at a 6 month of follow-up, 21 (17.2%) of 122 members who had undergone treatment were abstinent and that 14 (11.5%) had diminished cigarette utilization by in any event 25% of that which was seen at pretreatment level. 6 (5.6%) of 107 members in the control cluster were abstinent and none had a decreased utilization. CBT intercession was found to be possibly lessening the prevalence of smoking.^[10] Another investigation which was

Table 1: Demographic details of the participates in the study

| No | Variables | CBT (n=50) n (%) | BHE (n=50) n (%) |
|-----------------|-----------|------------------|------------------|
| Age | | | |
| 1. | 20-40 | 11 | 10 |
| 2. | 41-60 | 15 | 23 |
| 3. | 61-80 | 16 | 12 |
| 4. | >80 | 08 | 05 |
| Gender | | | |
| 1. | Male | 32 | 35 |
| 2. | Female | 18 | 15 |
| Type of Tobacco | | | |
| 1. | Smoking | 21 | 18 |
| 2. | Smokeless | 22 | 27 |
| 3. | Both | 07 | 05 |

led by Webb MS *et al.* additionally demonstrated that the 7-day point-prevalence abstinence (ppa) was fundamentally more noteworthy in the CBT than in the BHE condition toward the end of counseling (51% vs 27%), at 3 months (34% vs 20%), and a 6 months (31% vs 14%). In this manner, the escalated cluster of CBT smoking suspension approach was observed to be effectual among African-American smokers.^[11]

Out of the all-out tobacco consumers, just a few having tried counseling for tobacco cessation, it becomes imperative to address this health hazard and work up to solid measures toward harm control.^[1] Different ecological and social components—related are in charge of abatement and backslide to tobacco use.^[12] A viable technique to help begin to stop tobacco use, CBT aides beating these social marks of disgrace related to tobacco-use inception and backslide counteractive action in the long haul.

Incorporation of tobacco discontinuance programs with wellbeing and advancement projects can be useful in beating the obstructions in tobacco control and diminishing the tobacco-related weight. For avoiding the overwhelming impact of tobacco, tobacco control arrangements should be carefully executed, and for better infiltration of approaches, culture-based techniques should be concocted.^[13]

The need of the hour is to incorporate counseling for tobacco cessation at the primary care level. Ensure that the population is well informed about the availability and accessibility of tobacco dependence treatment services and encourage them to make use of them. Integrate brief advice into the existing primary healthcare system.^[14]

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Conflicts of interest

There are no conflicts of interest.

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